DOCUMENT RESUME

ED 361 138 RC 019 264

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|---|---|
| TITLE | Farmworker Substance Abuse: An Action Plan for the Year 2000. Proceedings of the National Farmworker Substance Abuse Prevention Conference (San Diego, California, October 18-20, 1991). |
| INSTITUTION | National Migrant Resource Program, Inc., Austin, TX. |
| SPONS AGENCY | National Clearinghouse for Alcohol and Drug Information (DHHS), Rockville, MD. |
| PUB DATE | 91 |
| NOTE | 112p. |
| AVAILABLE FROM | National Migrant Resource Program, Inc., 1515 Capital of Texas Hwy. S., Ste. 220, Austin, TX 78746 ($17). |
| PUB TYPE | Collected Works - Conference Proceedings (021) |
| EDRS PRICE | MF01/PC05 Plus Postage. |
| DESCRIPTORS | Adults; Agency Cooperation; *Agricultural Laborers; Alcohol Education; Delivery Systems; Drug Education; Farm Labor; Migrant Children; *Migrant Health Services; *Migrants; Migrant Youth; Prenatal Influences; *Prevention; *Research Needs; *Substance Abuse |

ABSTRACT

This proceedings contains commissioned background papers used by conference work groups focusing on nine aspects of farmworker substance abuse, and the action plan developed by the work groups. The keynote address by Felipe G. Castro examines risk factors for substance abuse and addiction among Chicano farmworkers, particularly adolescent and young adult males; factors related to attitude change, behavior change, and relapse; family dynamics and related values among Mexican migrant workers; and acculturation differences among farmworkers. In the "Plan of Action for the Year 2000," the work groups identify problems in eight areas (research, continuity of care, funding and other resources, access to services, culturally appropriate models, coordination of services, leadership, and education and advocacy), and make recommendations in each area for policy formation and for meeting the needs of adults, adolescents, and mothers and babies. The commissioned papers are: (1) "Health Status and Contributing Factors for the Perinatal Life Cycle" (Anne Doolen and James A. Martin); (2) "Substance Abuse among Latino and Farmworker Adolescents" (Devon Davidson); (3) "Farmworker Substance Abuse Issues and Concerns for the Adult Life Cycle" (Tino De Anda); (4) "Farmworker Substance Abuse Prevention for the Perinatal Life Cycle" (Carol J. Dauenhauer Giese); (5) "Education, Advocacy, and Resource Development for the Farmworker Adolescent" (Nancy Vaughn); (6) "Education, Advocacy, and Resource Development for the Adult Migrant Farmworker" (David S. Anderson); (7) "Targeting the Pediatric Age Group for Prevention" (Phyllis J. Henderson); (8) "The Status of Evaluation and Research Efforts for the Adult Life Cycle" (Silvia Rodriguez Andrew); and (9) "Patterns of Rates of Mortality from Narcotics and Cocaine Overdose in Texas, 1976-87" (Kirk C. Harlow). (KS)

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# RMWORKER SUBSTANCE ABUSE: AN ACTION PLAN FOR THE YEAR 200

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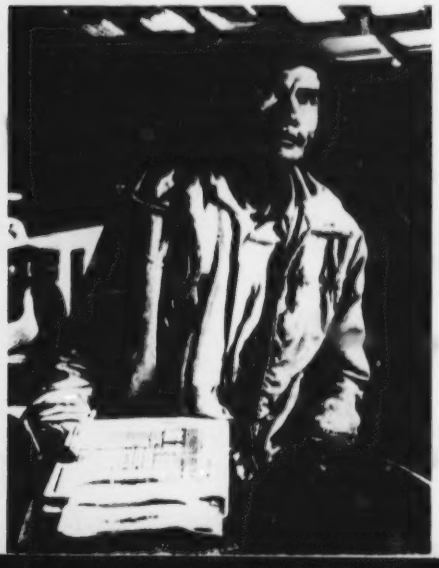

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# FARMWORKER SUBSTANCE ABUSE: AN ACTION PLAN FOR THE YEAR 2000

Proceedings of the
National Farmworker Substance Abuse Prevention Conference

October 18-20, 1991
San Diego, California

NATIONAL MIGRANT RESOURCE PROGRAM, INC.
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# Acknowledgments

## Conference Sponsors

We gratefully acknowledge the following sponsors, whose contributions of talent, effort and support have made possible the first Western Stream Forum and the National Farmworker Substance Abuse Prevention Conference:

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Migrant Clinicians Network

Office of Substance Abuse Prevention

DHHS/BHCDA/ Migrant Health Program

National Rural Health Association

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# INTRODUCTION

The National Migrant Resource Program, Inc. (NMRP), through a grant from the federal Office of Substance Abuse Prevention, held the first National Farmworker Substance Abuse Prevention Conference in San Diego, California, October 18-20, 1991. This forum provided an innovative approach to creating a national plan for implementing the alcohol and substance abuse components of the *Migrant and Seasonal Farmworker Health Objectives for the Year 2000*. The Farmworker Objectives, originated by NMRP and the Migrant Clinicians Network with assistance from national migrant care experts, supply the foundation of a substance abuse prevention agenda for hard-to-reach, rurally isolated, high-risk, mobile, minority populations.

The nation's five million migrant and seasonal farmworkers—the majority of whom are Hispanic, Black, or Haitian—live, work, and suffer conditions which promote the use of alcohol and other substances. These conditions leave them vulnerable to the results of abuse due to limited access to information and services.

In order to make the massive topic of farmworker substance abuse prevention more manageable, conference participants were divided into nine work groups with a focus on life cycles:

- Health Status/Contributing Factors—Perinatal;
- Health Status/Contributing Factors—Adolescent;
- Health Status/Contributing Factors—Adult;
- Advocacy/Education/Resource Development—Perinatal;
- Advocacy/Education/Resource Development—Adolescent;
- Advocacy/Education/Resource Development—Adult;
- Pediatric Issues;
- Research/Evaluation; and
- Policy/Standards/Documentation.

Before the conference, NMRP commissioned experts in the field of substance abuse prevention to write background issue papers directed to each of these nine groups. The background papers were used as the point of origin for work group deliberations. During the conference, each work group generated a problem statement, identified needs and issues, and formed recommendations and action strategies for implementing the *Migrant and Seasonal Farmworker Health Objectives for the Year 2000*. The resulting Action Plan is presented later in this document.

To complement the information provided in the background issue papers, NMRP also invited representatives from across the nation to share with the forum their many years of experience in the field of substance abuse prevention. These selected delegates provide a valuable contribution to the outcome of the conference by assisting participants in each work group to build consensus, formulate problem statements, and create action strategies and recommendations. Dr. Felipe Castro, Director of the Hispanic Research Center at Arizona State University, delivered the keynote address at the conference; his presentation is also contained in this document.

## BACKGROUND AND DEVELOPMENT

Prior to commissioning the background issue papers, NMRP conducted a literature search through its Resource Center. The *American Journal of Public Health*, *Migration World* magazine, and *Public Health Reports* were among the publications reviewed for potential candidates to author papers. Representatives from a number of organizations, including the National Institute for Drug Abuse, National Institute for Mental Health, NIAAA, University of Washington School of Medicine, Boston City Hospital, and directors of health service programs at the University of Florida, University of South Carolina, California State, University of Colorado, and the University of Arizona were also consulted for author recommendations. Personal contacts were made at a number of conferences, including the Rural Health Research Workshop conducted by the University of North Dakota School of Medicine, "Border Health Issues" sponsored by the Pan American Health Organization, the 13th annual National Rural Health Association Conference, and the National Conference on Migrant and Seasonal Farmworkers. These conferen-

ces provided an opportunity to observe potential authors for the background papers.

During stream breakout sessions at the National Conference on Migrant and Seasonal Farmworkers, many health care providers expressed a desire for regional, topic-specific seminars and professional development courses. The Public Health Service regions of the western United States wanted to hold their first regional meeting in the fall of 1991. Since alcohol and substance abuse prevention and treatment are major areas of concern in the west coast states, it was determined that combining these forums would add a synergistic effect to both the Western Stream Forum and the National Farmworker Substance Abuse Prevention Conference.

The Planning Committee was comprised of representatives from PHS regional offices and health providers with specific interest in substance abuse prevention. Skill building workshops were added to the agenda and provided a venue for selected delegates to the substance abuse conference to address a different audience from those participating in specific work groups.

## Selected Delegates and Facilitators

Selected delegates were chosen from nominations submitted by executive directors, dental directors, medical directors, and migrant contacts in migrant and community health centers across the nation. Nominees were reviewed, contacted by telephone, assigned to a group related to either an area of expertise or professional interest, and invited to be a part of the consensus-building process. The background issue papers were sent to the selected delegates prior to the conference. Invitations to participate were also sent to a variety of substance abuse prevention centers and institutes nationwide. To maintain a balance of group number and expertise, other symposium attendees were queried at registration as to their area of specialization or professional concern, assigned to a work group, and instructed to read the corresponding background issue paper. An orientation session was conducted at the outset of the conference for authors, selected delegates, and facilitators. This orientation presented the conceptual framework of the conference and explained the process by which work groups would build consensus, define problem areas, and develop recommendations.

## Specific Aims

The National Farmworker Substance Abuse Prevention Conference was the first step in a decade-long commitment toward eliminating alcohol and substance abuse from the farmworker population. The meeting of leaders of various fields not commonly assembled resulted in the identification of problems specific to the migrant and seasonal farmworker population and the creation of innovative recommendations.

The National Farmworker Substance Abuse Conference brought together representatives recognized nationally for their expertise in the fields of substance abuse prevention, education, and treatment; primary care; provision of services to farmworkers and their families; public health promotion; and public policy formation. Representatives from the Telesis Corporation and ISP Pharmaceuticals were also included because of their commitment to substance abuse prevention through education and their motivation to pursue healthy behaviors for agricultural workers.

## Future Activities

An outcome not anticipated by this conference which has received tremendous interest is that the background issue papers and work group reports be submitted to appropriate professional organizations for publication. The participants expressed a desire that the resources, information, and products of the conference be disseminated to as wide an audience as possible, including national policymakers, in order to work toward successful implementation of the plan of action. As part of on-going endeavors, NMRP will continue to foster the communication established with conference participants and to enlist their assistance with the implementation of the action plan. It is anticipated that substance abuse prevention focus groups and workshops will become a regular part of regional and national conferences in which NMRP and the Migrant Clinicians Network are involved, as a mechanism to assess needs and highlight new and successful efforts at the local level.

# Migrant and Seasonal Farmworker Health Objectives for the Year 2000

The *Migrant and Seasonal Farmworker Health Objectives for the Year 2000* were compiled by the National Migrant Resource Program from interviews with national migrant care experts. The migrant objectives serve as a foundation for health promotion and disease prevention for a population at the bottom of the health system ladder. These objectives have undergone review by a broad representation of migrant care providers, health center users, academicians, policy makers and others. Based on the Office of Disease Prevention and Health Promotion/National Academy of Sciences initiative *Healthy People 2000*, the migrant-specific objectives were designed to function both independently of and together with the national objectives. They are useful as planning tools to focus and establish priorities for expanding migrant services, increasing awareness of needs and problems of the population, developing consensus on future program direction, and developing health care plans.

## Objective 1: Reduce Alcohol and Other Drug Abuse

The *Migrant and Seasonal Farmworker Health Objectives for the Year 2000* target the farmworker population as a group with special needs for alcohol and other substance abuse program development. The major thrust of drug and alcohol abuse prevention is the reduction of the adverse social and health consequences associated with the misuse of these substances. There are some formal alcoholism and drug abuse treatment programs available to farmworkers, but widely accessible and appropriate assessment and treatment programs are needed. A pressing need also exists for available, appropriate in-patient treatment for the migrant population.

### Increased Awareness

- Increase to at least 50 percent the proportion of health professionals serving farmworkers who have adopted alcohol and drug abuse incidence and needs assessments for appropriate age categories, resulting in the documentation of baseline data at least on a local level.

### Improved Services

- Not less than 50 percent of communities with more than 2,000 farmworkers shall provide a basic set of accessible substance abuse services which are culturally and linguistically appropriate to the farmworker population, to include assessment, crisis intervention and immediate referral.

### Reduced Risk Factors

- Decrease the use of tobacco, alcohol, cocaine, and marijuana among farmworkers by 20 percent.

### Improved Health Status

- Reduce by 50 percent the rate of death and bodily injury as a result of DWI accidents.

# Keynote Address: Preventing Drug and Alcohol Abuse Among Farmworkers and their Families

**FELIPE G. CASTRO, PHD**

*FELIPE CASTRO is Director of the Hispanic Research Center and Associate Professor in the Department of Psychology at Arizona State University in Tempe, AZ. Dr. Castro has seventeen years' experience in the fields of social work, clinical psychology, and teaching. His specific research interests include Hispanic health, disease prevention, and health promotion; neuropsychological assessment in chronic alcohol and drug using populations and in elderly Hispanics; self-regulation and control as facilitator of healthy behavioral change; design and evaluation of drug and alcohol treatment programs; and motivational factors in the etiology, treatment, and relapse prevention of cocaine, methamphetamine, and alcohol addiction.*

It is a real pleasure to be here. I have some remarks that I'd like to make, not so much because I have answers—despite all the education and information that I have tried to accumulate in my life. I come to you with a lot of humility because I don't have a lot of answers. But I think we have some very important questions that I posed to our students in the School of Public Health when I was there and that I'll continue to pose to people in Washington and in other areas.

I was so glad to hear that Lucina Siguenza [the Regional Program Consultant for Migrant Health, U.S. Public Health Service, Region X] made a strong pitch for research. In many areas research is seen as something that people do over there, and nothing to do with what happens here in the outside world. I take a different approach because research isn't just lab work, it's getting out into the community and trying to understand what is happening there. I was glad to see that Lucina talked about networking and national perspectives because I believe in action research, where there is a reason for trying to understand something so that you can do something better. Public health needs a scientific approach as well. I'm also glad she mentioned the issue of measurement, because that is the basis of science. As a psychologist, I work with emotions, feelings, attitudes. How do we measure these? Although you can't touch them, we do measure them, and we can make a distinction between various emotions. These can be measured. You can tell when someone is furious because they didn't get their paycheck or because they've been fired.

We've been working with people who have lost their job because of plant closings. Disappointment, depression—you can see it, it's there, and you *can* measure it. You can make distinctions between people who are a little bit unhappy and people who are very, very depressed such that they can't rise and take care of themselves. We can measure that. The point is that we need to measure in order to evaluate and understand what is happening so we can create intervention.

Finally, I do want to put in a pitch for *curanderismo* and natural healing. This is another area where we need to get more information on what works and the limits of such remedies, because not all home remedies will work for all conditions. On the other hand, we can't ignore the fact that they work for some ailments. And we need to understand the pharmacological properties of some of the medications and, at the same time, any side effects. However, it is important to note that a lot of those are natural remedies, so the side effects are usually or often less than those resulting from synthetic medications. There is also another role of *curanderismo* or other healing of that kind, and that's the spiritual which cannot be ignored. Some of the work that I've either looked at or have tried to do involves brain-behavior relationships. There is something intangible that has been harder to measure, and that's the human spirit. People can give up and it's well known, in the cardiovascular disease arena for example, that people who are depressed have a higher likelihood of disease (and at the population level, rate of mortality) than those who are not. This may have something to do with giving up on life. By contrast I think what is important is a human spirit where a person doesn't give up. One can't give up because of one's life mission. And I want to talk about that a little at the end—the concept of life mission. I think farmworkers have a lot of that because they're not just fighting for themselves, they're fighting for their families. That's important in keeping a person going.

Let me begin formally, and then as we go I'd like to loosen up a little. Just to give you a running start on some key issues: The topic is "Preventing Drug and Alcohol Abuse Among Migrant Farmworkers and Their Families." When we look at drug abuse it is really evident from national campaigns that drugs and alcohol, when consumed in large or sometimes even small amounts, are dangerous to health. I think very few people in this country would dispute that fact or would not believe it at some level although, clearly, when you talk to adolescents they "know they're going to live forever," so drugs "aren't that dangerous." But if we even asked them, "Could you possibly get killed if you overdosed?" their reply might be, "Maybe, but I don't think so." That's one of the issues few people generally are unaware of: the problems of drug and alcohol abuse. But many people (mostly young, but also old) continue to use very addictive substances, often becoming addicted despite the initial belief that "it won't happen to me." We've worked with many addicts in the Drug and Alcohol Study, persons addicted to methamphetamine or cocaine and others who have been addicted to opium for many years, primarily heroin. Not one of the 300 we interviewed or asked detailed questions—not one that I can think of—started using drugs with the idea that they were going to get hooked. No one thinks they're going to get hooked. But almost all of them do eventually. So that's a mind set we need to think about in prevention.

Now let's look at addiction. It's a condition that is very complex and very difficult to eliminate. Furthermore, relapse is the rule rather than the exception—it's one of the most difficult things to get rid of. Recovery is an arduous process. We see in our drug and alcohol study, that most people relapse either a bit or to a large extent, despite having received very costly treatment.

Basically, addiction occurs when a person becomes physiologically, psychologically, and socially dependent on a given drug, although addiction can involve other things, too. In addition, there are some questions about what are the boundaries of addiction. Can you be addicted to sex? Can you be addicted to money? Can you be addicted to work? Those are some issues that have come up in a broader definition of addiction. The downside to that is that dependency leads people to give up valued commodities that enhance life and are life sustaining. That is the bad part of the addiction—that you are compromising key things that promote healthy living. That's where I take a more public health and lifestyle approach, that addiction impairs living and health. Accordingly, many people see it as a public health problem, not just a problem for certain treatment areas that specialize in addiction. Addicts will give up everything in order to get the temporary relief of their next fix. Criminal behavior, as you know, is one of various socially undesirable actions people engage in when they use drugs and become addicted.

I'll turn now to the Chicano/Latino, especially the Hispanic farmworker. They're not exempt from the stress of addiction either, and in some ways might be at higher risk for certain kinds of addiction. I'll be talking about that in a minute. It would appear that the life situation of farmworkers is very difficult; this life situation also has been associated with higher risk. Yet in many ways farmworkers don't have as bad a profile in the drug arena as do inner city minority folk. Inner city is the worst place, and it seems as though farmworkers somehow do a little bit better, but that's not to say that we've seen the whole story, only that the problem doesn't look as bad as we might believe initially. However, this doesn't mean that we should not look at farmworkers, because there are some things that we need to consider.

Much of the risk of addiction depends on the life conditions that surround a particular farmworker's life. For example, let me give you what I think might be some risk conditions: being a young adult or adolescent male—that's a risk for addiction in itself. But also being someone who is under-employed might be a risk condition, as well as living in poverty, or belonging to a group of peers who endorse drug use. That is probably the single biggest risk factor.

There is an old Mexicano saying, "Di me con quien andas y te dire quien eres" ("Tell me who you walk with and I'll tell you who you are"). Basically, if you hang around drug-using youth, you will do that too for a variety of reasons. To "make it"—to be an accepted member of a particular group—you need to participate in group activities, and by the opposite note if you don't participate you're going to be excluded because you're not in good standing. Accordingly, there is a push-pull process that occurs and that involves peer influence. Some of the work we've done has identified peer influence as a key factor in drug use. Peer influence is more than just peer pressure, it also involves group dynamics—the fact that you are part of the group. Group dynamics is the biggest single risk factor for drug abuse among kids who start smoking, and even later on in the progression to the use of a variety of hard drugs. All of these promote drug use in non-farmworker populations and may also do so in farmworker populations.

Among migrant Hispanic farmworkers there are other possible risk factors we need to consider: loneliness (at least in young adult males)—I think that's an important factor that can be seen in any group, but you do see that more in single males who have migrated to this

country. The absence of family or spouse is very important. Less responsibility to a family unit also promotes drug and alcohol use—not that these people are sociopathic or irresponsible, but the family unit isn't there as part of the family warmth and obligation or connection, which is important in helping people to feel complete. Drugs are often used by people who don't feel complete. Such persons get high to pass the time and to hang around with friends.

Interestingly enough, I am led to believe that receiving pay in large quantities after long periods of work may also promote drug use, because a person has large amounts of money to "splurge." When that's coupled with the fairly well known idea that "now you're going to reward yourself for your hard work," binge drinking occurs. "Let's have a beer just to relax." However, the issue is that when you have a lot of money and alcohol or another drug is available, those are the conditions which can lead to heavy drug or alcohol use. That's not to say that farmworkers get a lot of money. However, the point is that there are patterns such as being paid periodically and in large amounts, that sets the stage for purchasing drugs and alcohol, and using these in binges.

Having few recreational outlets is another condition associated with drug abuse. We see this with adolescents, but it can well be the case among young adult farmworker males. For example, you have nothing to do after a long week of work, so what better to do than to go out on a drinking binge with your friends. Lack of recreation would appear to be a risk-promoting condition. Those conditions are suspected, although we need to confirm that these truly contribute to a higher risk.

Among Hispanic farmworker youth, there are some other possibilities. Clearly it's known that alienation from parents is a big factor. If kids are out on the street, at least in the inner city, away from parental authority, that's an issue. Ethnic identity conflict is a second possible risk factor. Kids who find discomfort in identifying with their culture may feel that they need to strike out in other areas, looking for different kinds of friends. Those youth may fall in with a group that could be more main-stream, but who still might also be drug users. Again, participating with other youths who are using drugs, the peer pressure or peer influence idea may coincide with the identity conflict. Many of these factors are interconnected. This point has been underscored in the past by a group of investigators, Jessor and Jessor and their associates. These investigators discuss multiple risk profiles in kids. Kids who are not doing well in school, kids who don't get along with parents, kids who are angry and perhaps acting out—all of these things occur together, and they indicate cases at highest risk for drug use.

Among farmworkers, there may be a similar, interconnected profile, as I mentioned before, that could include loneliness, being paid in large amounts, and not having a cultural or educational outlet. All those might be risk factors for young adult males.

Let me present a little on some considerations for prevention, taking a public health approach. Consistent with what I've presented before, we need to identify what are the risk factors among various farmworker sub-groups. Here we need further research, specifically with various migrant worker populations, to ascertain what are those risk factors. The goal, of course, is to eliminate these so that the risk of drug and alcohol abuse diminishes. Accordingly, we need field research, such as ethnographic research, to begin identifying these risk factors. We also need conceptional models or working models on what combination really would affect farmworkers in a different way from inner city unemployed folks. Needed are different models for different populations. One needs a different model for kids than for middle aged people. The models, of course, suggest ways to target the risk factors and to do something about them.

Let me talk a bit about how we develop a public health campaign; how might we do that? Some of you may be well experienced and have your own ideas. How can we go far beyond what I present here? First, we must identify a target population. I was glad to see that this conference is broken down according to life-cycles, because they all need their own model of how to intervene and make differences. How you intervene in one group, as you well know, may be very different from how you intervene in another group.

We need to understand a person's life situation, life goals, aspirations, motivations, active behavior, and how these increase or decrease risk of drug and alcohol abuse. We need to acknowledge that information is necessary but not sufficient for behavior change. The old view in public health, back in the 50s and even the 60s, was that all you have to do is give people information and they're going to change. That is a necessary condition probably most of the time, but not always. However, knowing what behaviors are healthy doesn't guarantee behavior change. Going back to the initial comments I made, it is clear to all of us and to most people in this country that drugs are bad. That doesn't mean all people stay away from drugs. Why? Because there are psychological, social, and interpersonal forces that somehow push people into the drug arena, even though they "know better" at some level. Giving fac-

tual information is the first of many steps in encouraging the avoidance of illicit drugs.

Let's move to the next level of psychological influence: attitude change. How do we do that? First of all, promoting effective attitude change requires that the message be culturally meaningful. How we do that becomes complex although people have tried to define what is "culturally sensitive." Basically, a message is culturally sensitive if people can relate to it. Can that population or members of that group relate to the information? Accordingly, language is important. Ideas have to hit home with the kids or young adults. Members of the target population need to believe the information at the level where if they won't admit it now, they will admit later in some way. It's a way of going beyond dry, factual information and getting at the heart of the matter. This approach is not oriented toward making people feel bad, although they might feel anxious about it. The purpose involves trying to persuade members of the target population that they really should change.

The next level is behavior change itself. There is much prior research on how you change behavior. There are some limitations when applied to migrant populations and to third world groups. We know that, for example, one of the most powerful ways to change behavior is to structure the environment along with creating favorable attitudes.

Let's focus on the environment for a minute. One of the approaches that is often used is a contingency contract. If you participate in a prescribed way and you meet the goal, then you get some reward or something positive after that. One of the issues with this approach is that it doesn't seem to work well in populations that are beset by poverty, unemployment, multiple life problems, and that basically live in a very difficult life situation, so that changing a specific behavior is really not that important compared to daily survival. We need to take that into account in some way, so that we create contingencies that are meaningful to members of the target population. In some cultures the contingency that involves making money or getting a reward is important. However, among migrant workers or among members of indigent populations, the nature of the personal relationship is also important. This observation of mine goes back many years. I was working with a physician who was now a patient since he had developed Alzheimer's Disease when I was at the Neuropsychiatric Institute at UCLA. We developed a contingency contract with this patient where we were trying to help him feel better. In doing so, this patient's job was to read the front page of the *Los Angeles Times* and to report on that. If he remembered accurately we'd say, "Gee, that's good, you did it!" The idea was that if he succeeded, that would serve as evidence confirming that he still could think effectively. At the end of all that, we were able to change his behavior in terms of remembering and reaching an agreed-upon goal. I think that served a useful purpose. At the end I asked him, "How did this work?" He said, "Well, the real reason that it worked was that I didn't want to let you down. I really didn't want you to feel bad." This example underscores the idea that in indigent or third world populations where the family is a very important source of social reinforcement, reinforcing is *not* reaching the goal, although that's one of the important relationships that we need to foster in helping addicts and creating prevention programs that make sense to the kids or the young adults or even the elderly who are addicted to alcohol.

A few more points should be mentioned. Relapse is something I'm very interested in, because sometimes we are successful in behavior change but it doesn't last. To truly effect changes in health status, behavior has to change not just today, but for weeks, months, or even years. Thus, we need to understand relapse better. How does relapse occur among minorities? We're currently looking at some of this with Chicano and Black cocaine and crystal users. We're still trying to understand some of the factors that promote relapse. We feel that one of the important factors is support—family support, social support, and family networking. If there is a lot of family conflict, we feel that sending a person back to a conflict-ridden family constitutes a risk factor for relapse.

Bad relationships with parents or with spouses and significant others also likely promote relapse. Ironically enough, in order to prevent relapse what we really need to do is to look at the family and conduct family system therapy to help the family work with the issues. In addiction we're not talking about one person, we're talking about a family system. And this is especially relevant to migrant farmworkers. In fact, one of the key things to be mentioned regarding migrant farmworkers is that the individual is not the unit of survival—it's the family.

In understanding the family dynamics among Mexican migrant workers, one must examine traditional values found in Mexico and third world countries. The conception is that you don't work for yourself, you work for the family. If the family disintegrates, everyone starves. Those values, I think, are important enough that I'd like to focus on them in my final comments. I'd like to talk about the hardest thing to change, even harder than changing behavior. We can change knowledge very quickly. You just give people information and they can

remember it. Attitude change is harder, but we can do it. Behavior change is even harder than that, but with effort and a relationship we can do it. The hardest thing to change beyond behavior, believe it or not, is what? Values. Values don't change overnight.

In some of our work where we've looked at some people's values even after a very intense drug treatment program, values don't change that much. What is a value? A value is that which is important in life. What's important to the person? Religion? Family? Getting rich? Being successful? Those kinds of things don't change very much. Why is this important? It's my view that today dysfunctional values promote drug abuse. It is not known to what extent dysfunctional values affect migrant families, although I think they do to some degree. By contrast, strong values are also a source of strength; Mexican and other families have survived as a result of traditional values. What's traditional? At the core of tradition lie the values that promote the family as a unit of survival. If you're responsible to the family, you really aren't free to engage in excessive self-gratifying individual behavior, such as getting high on drugs. You can't because the family is counting on you. I think that's very important. Traditionalism is not necessarily the conservative idea of religion, although I think that could be part of it. It's also not politically conservative views, but rather traditionalism involves the family. In third world countries, the family is the unit of survival. I think we have to go back to looking at families as a possible safeguard against drug abuse. It is no surprise that kids that get into trouble with drugs come from broken or disruptive families. We've seen it in our own research. I think that the same thing applies to migrant male or other farmworkers, migrant workers who are away from their families. Their families have been disrupted through political or economic circumstances, including the need to make money. To the extent that the family system is disrupted, the person is at risk. By contrast, those migrant families that move up and down the migration streams together (this is my opinion and we need to confirm this data) seem to be at lower risk for drug abuse, again because of family dynamics, where each individual is responsible for the survival of the entire family. You can not get away and do your thing without injuring the family. This traditional safeguard has to do with value for the family, value for survival of all, the importance of interrelationships, and the linkages that all family members have with each other.

In summary, while some of these views are part speculation, some are observations I've made throughout the years. In general, when we intervene with Chicano and third world clients, certainly among Latino populations, we must give particular emphasis to interpersonal relationships: the family. Through the family system we can try to change things that are not operating well to make them operate better, that is, in the direction of reducing the risk of drug abuse.

Usually keynote presentations don't have questions and answers, but I would like to do some of that because in many ways what I present to you includes some facts and some speculations along with some issues that need further attention. Here we should ask, "What can we do and where do we go from here?" We must be motivated to look carefully for answers that relate to our own particular population, farmworkers, and then pass on the information to others. I didn't want to forget to mention too, that as Director of the Hispanic Research Center at Arizona State University, I'll be very happy to speak with any of you if you'd like to ask for information or ideas and referrals, those kinds of things. Being new there, we're still setting up shop, although one of our goals is to develop networks. Thus, I give an informal but warm welcome to any of you that would like to call and develop some kind of network whereby we could provide you some of the limited resources we have now or simply a referral or whatever the case might be. It's an open invitation to begin some networking. I'm happy to serve as one of many who would do that. Let me give you the number for the Hispanic Research Center and see if anything does come of it. It is in Tempe, Arizona, which is a suburb of Phoenix. The number is (602) 965-3990. If I get one call or a dozen, I'll be happy to speak with you. If I'm busy, I will return your call. I look forward to that.

## Comments, Questions and Answers

**Q:** In terms of risk assessment, there seems to be in some folks, or maybe in many, a discrepancy or difference between what they perceive to be the risk and the true or real risk that is determined from epidemiological studies. Please comment.

**A:** Yes indeed, it's very important to look at that. It's clear that we have a good example of this in adolescents. Adolescents tend to see themselves as being at very low risk, as was observed in some work by Neil Weinstein at Rutgers a few years ago. Weinstein studied college students and basically found that most of these students saw themselves to be at much lower risks than their peers. In other words, "I'm not as high a risk as everyone else my age." This is not necessarily true. You're at the same risk as everyone else because you're in that group. This "optimistic bias" regarding

risk is a good basis for research into increasing awareness of true risk. Then the goal would be to bring that awareness closer to a reality, rather than living under a distorted perception of risk.

**Q:** Would you say something about acculturation differences among farmworkers?

**A:** I very much appreciate your comment, simply because in any population you really have clustering and we need to do a better job of identifying those clusters. It has to do with the idea that one approach perhaps works well for Farmworker Cluster A, but it doesn't work for Farmworker Cluster B. One other point I wanted to make is that, unfortunately, many of the youth in our society have been addicted—in many ways by television and pop videos—to the hedonistic lifestyle. The idea that you have to work real hard for a little bit of gain has slipped away. The opposite, little work for high pay-offs is consistent with drug use and certainly with drug dealing. You don't do much work and you get a lot of money for a quick dirty deal. The opposite of that is very wholesome, although not very lucrative. Spiritually wholesome values involving work and the family have been seen among farmworker families many of whom espouse traditional Mexican cultural values. I have said to some folks that one way to help some youth to overcome their addictive hedonistic lifestyles is to send them to do some farmwork for a summer. Perhaps this experience would help them to understand down-to-earth values that cannot be bought with money, along with an appreciation for the value of hard work.

**Q:** What have you used to measure acculturation?

**A:** We have used various tools, depending on the work that we do. Using an acculturation scale is one way of creating clusters, at least a distinction between very traditional and less traditional folks and those who are bilingual/bicultural. One of the better scales was developed by Cuellar, Harris, and Jaso way back in 1980. I have used a smaller version for survey research over the phone or even face to face. I'm happy to share that reference or whatever I have with you. That goes for anyone else. I'm happy to share our instruments if for no other reason than to pass along other information that might be useful to you in the work that you do out in the field. Acculturation has been criticized because it really doesn't apply the same way to Puerto Ricans or to Cubans. On the other hand, it's better than simply talking about Mexican Americans or Hispanics in general. There is too much within-group variability to not make those distinctions. I think we have to do a better job, starting conceptually, in characterizing meaningful within-group differences, like the distinction between farmworkers who have worked as farmworkers for many years as compared with those who are new to farm work. Those are two different groups and we need to identify other groups in a similar way. These differences are identified from clinical or field observations and then measure those differences in a statistical way.

**Q:** [Question inaudible on tape]

**A:** Yes, in fact, one person who has done a wonderful job in looking at that very issue with Cubano youth and their families is Jose Chavoznik in Miami. He's well known for family systems therapy, and one of the first discoveries that they made in looking at Cubano parents and their kids is that there was a different rate of acculturation. The older parents are not going to acculturate that much. They've already lived their life in a Latino community. It's hard to learn the language and to change values and to change a lot of things. Kids are new here. They take off right away and they maybe acculturate too fast. That difference in acculturation and value appreciation of Latino traditions and values creates a communication gap and also a gap in terms what kids believe in and what their parents believe in. That's been directly associated with higher rate of drug and alcohol abuse in the Cubano youth. What Dr. Chavoznik has tried to do is to address that issue directly so that you bring those people together again not only in terms in their beliefs and values because they can share with each other how they feel, but also to develop communication between them. But that is indeed a risk factor-the difference in acculturation and the communication problem between parents and kids. A very good point.

**Q:** [Question inaudible on tape]

**A:** A good observation. In the Sacramento or central California area there has been a stream from the inner city Los Angeles area that have come in as a new group of laborers that are basically urban in background. They brought in some of the urban, maybe inner city, value system and desires for drug involvement. That's come to influence the existing group that's more traditional, conceivably affecting family relationships. I should add something too that, it's possible to go the other way. Family systems that are too conservative, too rigid, too enmeshed are also not good. We need to find a balance there. Families can be fragmented or they can be so enmeshed that kids feel smothered and their overreaction or reaction to that is to get out and get into drugs. So we need to understand family dynamics looking for that basic balance where kids are neither pushed out in both senses because they escape or they're literally ejected because the family falls apart.

# A Plan of Action for the Year 2000

The following recommendations are the result of nine work groups which convened at the National Farmworker Substance Abuse Prevention Conference.

## Problems Identified

- *Research*—Very little research has been conducted into the underlying causes of addiction among farmworkers and roles of poverty, acculturation, diminished self esteem, and other complex factors in the development of alcohol and drug abuse patterns. Research specific to the migrant and seasonal farmworker population is difficult to conduct due to the population's mobility. Studies have shown that, for many farmworker families, the basic human needs of food, clothing, and shelter are not being adequately met. Without some understanding of how these deficiencies contribute to addiction, the issue of substance abuse among farmworkers cannot be fully addressed. In addition, firm data to support requests for funding and targeting of migrant substance abuse prevention efforts are very scarce for the migrant and seasonal farmworker population.

- *Continuity of Care*—There are no appropriate mechanisms in place to identify substance-abusing farmworkers and to track them for follow-up as they move along the migrant stream. In addition, no method currently exists to allow health centers along the stream access to up-to-date medical records on individual farmworkers. This means that health care providers may not have important information about a patient's medical history.

- *Funding and Other Resources*—Funds for mental health, including treatment and prevention programs for migrant and seasonal farmworkers are in very short supply. Where these funds are available, migrant service agencies often lack the staff, technical skills, and time to discover and apply for them. In addition, there is a shortage of appropriately-trained, bilingual/bicultural service providers and it is difficult to attract these providers to migrant practice; the geographic and social isolation of practice in rural areas also leads to a high rate of turnover among the professionals who do choose to provide migrant health care. Finally, the existing educational resources such as curricula, audiovisual materials, and other programs for substance abuse treatment and prevention are often inappropriate for the lifestyle, educational level, native language, and cultural background of migrant farmworkers.

- *Access to Services*—Many factors combine to prevent migrant and seasonal farmworkers from using the existing services. These factors include geographical and social isolation, lack of transportation, need for child care, inability to sacrifice wages for work lost while pursuing services, cultural resistance to use of mental health services, and need for bilingual/bicultural services and service information. In addition, many farmworkers simply do not know that there are services available.

- *Appropriate Models and Services*—There is an overall lack of culturally sensitive, demographically appropriate intervention and treatment models which support the cultural heritage of migrant and seasonal farmworkers and which are realistic in terms of the capabilities of small, rural health centers.

- *Integration and Coordination of Services*—There is little coordination between migrant health care providers and existing substance abuse services. Integrated service delivery models need to incorporate communities, schools, families, and agencies at the local, state, regional, federal, and international levels. These systems and organizations must be responsive to the root causes of substance abuse, and be able to work in a cooperative and cost-effective manner. In particular, the lack of a uniform system for interstate Medicaid eligibility is a major barrier for farmworkers. State requirements may delay determination of eligibility for longer than a worker is in a particular location, and the burden of paperwork can discourage workers from applying.

- *Leadership*—The issue of substance abuse prevention and treatment suffers from the lack of cohesive leadership. This is reflected in failure to clarify the desired outcomes of substance abuse efforts; lack of

attention to and/or enforcement of federal and state standards which could improve living and working conditions for agricultural workers, thus reducing their risk for substance abuse; and lack of union/employer partnership to address substance abuse prevention and treatment.

- *Education and Advocacy*—The migrant farmworker population exhibits a very school dropout rate starting at the fourth grade. Economic necessity and a migrating lifestyle often cause children to leave school in order to work in the fields. In addition, educational and advocacy efforts frequently fail to consider the effects of alienation and/or incomplete acculturation on farmworker mental health. Factors such as lack of appreciation for cultural values, loss of good cultural nutrition habits, language barriers, inter-generational gaps and barriers due to differences in acculturation, community resistance, and single heads of household may all contribute to overall risk for substance abuse. In addition, substance abuse prevention efforts need to harness the energy of the migrant and seasonal farmworker community itself. Education and self-help efforts with this community need to emphasize positive lifestyles, both in the community and in the work environment. Specific issues include prevention and treatment settings which inadequately incorporate traditional family values, work conditions and employer attitudes which are not conducive to a drug-free lifestyle, and the need for programs which can teach individuals at risk to envision their own futures. Such programs would incorporate self esteem enhancement, goal setting, and budgeting.

## RECOMMENDATIONS

### PERINATAL LIFE CYCLE

#### RESEARCH:

- Increase understanding of the causes of maternal substance addiction by identifying risk factors for maternal substance abuse such as history of sexual abuse, rape, incest; poverty; history of substance abuse in family and significant relationships; family violence; and adolescent pregnancy. All migrant-specific research should be sensitive to gender and culture issues among farmworkers.

#### DATA COLLECTION:

- Develop and implement a short assessment tool to increase professional awareness and promote early identification of substance-abusing pregnant migrant and seasonal farmworkers. The tool could be used at outreach, neighborhood stores, labor camps, hospitals, medical offices, etc. Technical assistance should be provided to assist with research and data collection.

- Set up a national referral network for identified prenatal substance abusers through inter-agency and community resources.

- Form an interagency task force of prenatal care providers within the migrant stream to evaluate the feasibility of a prenatal record transfer system. This task force should develop a proposed system for confidential interstate medical record retrievals to assist in tracking farmworkers for follow-up. Existing systems, including the Migrant Student Record Transfer System, should be identified and evaluated for possible adaptation. Conduct a pilot study of the proposed tracking system for evaluation of effectiveness and feasibility.

#### RESOURCES:

- Increase the supply of culturally-sensitive health and human service providers by recruiting bilingual/bicultural providers at all levels. Appropriate training on cultural sensitivity should be given to all providers in substance abuse certification, continuing education units, etc., and through national professional organizations. Develop resources such as education assistance and training that foster culturally competent staff.

- Increase available funding for farmworker health and substance abuse services:
  - Increase appropriations at all levels.
  - Develop local and state funding strategies, especially block grants.
  - Include reviewers who have experience with farmworkers on grant review committees.
- Identify other available resources:
  - Identify available intra- and inter-agency and community resources. Evaluate these resources for effectiveness, and use the most effective resources.

- Form a task force to further evaluate identified resources and service gaps, and develop new resources to address identified service gaps.

### Access:

- Increase access to prenatal and perinatal health care by allocating resources and encouraging creative models for transportation, child care, and education/community outreach.
- Form a community task force to address barriers to access of existing services, set goals and objectives to meet identified access problems, and meet on a regular basis to coordinate, network, and continue process evaluation.
- Develop a directory of prenatal substance abuse services and translate it into the native language of the migrant population in each community.

### Models/Services:

- Encourage development of programs which address self esteem and empowerment of female migrant and seasonal farmworkers.
- Develop creative demonstration models with strong evaluation components, i.e., mobile substance abuse teams, community health outreach, lay health workers. Create appropriate interventions and treatment resources, including outpatient services and halfway houses, for pregnant substance-abusing migrant workers and their infants.

### Integration/Coordination:

- Encourage advocacy groups to coordinate efforts to work on migrant issues as a unit, developing a formal network to give the migrant population a voice and their advocacy efforts further strength. Establish coalitions among existing national substance abuse advocacy organizations to conduct cross-regional planning based on client need.
- Implement interstate Medicaid reimbursement compacts.
- Form a multi-disciplinary community consortium of health care providers, organizations, and agencies. This consortium should develop an action plan to identify available resources and service gaps.
- Expand linkages between substance abuse entities and others with access to children and families (Head Starts, schools, public health departments, day cares, etc.).

### Leadership:

- Education in substance use disorders should be required of policy makers and those charged with policy implementation at every level.

### Education/Advocacy:

- All substance abuse education efforts, including those for administrators, clinicians, and family members, should incorporate the disease model to reduce the moral stigma of substance abuse.
- Substance-abusing mothers should be educated on the dangers of substance abuse to their infants, and on caregiver competency, and families should be involved in counseling and education about risk factors to strengthen the support system for the mother.
- Enlist community leaders to participate in activities that promote alternatives to substance use and change group norms. This should include male role models, clergy, and recovering role models.
- Support grassroots recovery organizations and facilitation of key family member involvement (AA, NA, Alanon). Develop an aggressive outreach program, including a mass media component, to create public awareness, incorporate use of lay community workers, and inform and educate the target population about prenatal substance abuse.

## Adolescent Life Cycle

### Research:

- Establish a task force to gather existing research on acculturation issues and to develop proposals to expand our understanding of 1) a cross-cultural definition of adolescence, 2) the interaction of inter-generational conflict and cross-cultural conflict, and 3) family dynamics/roles in the acculturation process.

### Data Collection:

- Establish a National Clearinghouse on Farmworker Issues to collect and disseminate research on farmworkers' identified needs, and to establish a system for providing continuity of information and care for migrant farmworkers.

### Resources:

- Increase available resources through the use of lay health workers. Provide funding for lay health workers in base grants, and conduct research to prove that lay health workers are cost-effective and to identify effective prevention strategies specific to the migrant population. Evaluation for such strategies should be outcome-based in order to show behavior change.
- Identify models of community development programs to promote community buy-in and implementation.
- Strengthen social support for the migrant population by funding advocates, especially for new arrivals.
- Develop access and market educational media programs (about family health, adolescent drug use, developmental changes, etc.) which are linguistically and culturally appropriate, to provide for stream continuity. Some programs should be developed and/or reviewed by adolescents.

### Access:

- Provide transportation by collaborating with other organizations to share use of vehicles (i.e., community clinics, vans, etc.). Identify existing community resources (e.g., get businesses to donate money for vehicles).
- Provide mobile health clinics.
- Provide technical assistance for outreach workers and for grant writing.

### Models/Services:

- Develop appropriate interventions (health promotion/substance abuse prevention, screening, early detection) and treatment models for migrant farmworker youth.

### Integration/Coordination:

- Provide funding for multi-disciplinary demonstration projects for adolescents. These projects would involve community, schools, health centers and private sector working together. Projects should be developed with input from adolescents, and successful projects should be marketed to other areas.

### Leadership:

- Encourage Latinos to participate in local government and school boards.

### Education/Advocacy:

- Implement the following drop-out strategies:
  - Involve parents.
  - Create bilingual programs which are effective in both first and second language instruction.
  - Make housing and employment services available for students.
  - Find creative ways to involve colleges/universities with migrant youth.
  - Support junior high students' need for an advisor/counselor.
  - Provide comprehensive health education, including substance abuse education, for youth.
- Promote cultural pride, decrease alienation, and encourage acculturation through bilingually-conducted, community-based programs where families can come together for drug-free activities (e.g., dances, folklore, music, murals, food). Advertise these activities through health fairs, church organizations, fund-raising activities, soccer league, and family support groups.
- Teach adolescents to envision a future for themselves. Use the California Mini-Corps model to reach out to the migrant population via role models for the students. Advocate for bilingualism as a positive factor in career, future, and goal setting. Promote Latino clubs in schools, and involve community businesses in prevention.

## ADULT LIFE CYCLE

### DATA COLLECTION:

- Conduct a national needs assessment:
  - Develop a standard protocol for collection of farmworker substance abuse data, and institute mandates for reporting of farmworker substance abuse data.
  - Administer the assessment through migrant health centers and other grantees.
  - Coordinate data from other resources contacted by migrant and seasonal farmworkers such as schools, mental health centers, law enforcement.
  - Use a central clearinghouse to collect and analyze data.

### RESOURCES:

- Initiate OSAP and OTI development of funding targeted development of mental health/substance abuse initiatives, coordinated medical services, and demonstration programs for farmworker substance abuse treatment and prevention.
- Enhance funding specifically aimed at providing HIV and AIDS education (in appropriate languages and educational attainment levels) which are sensitive to farmworker cultural issues.
- Explore funding opportunities, both public and private, for research based on information that emerges from farmworker testimony.

### ACCESS:

- Develop a directory of substance abuse resources for distribution to farmworkers, with the information structured in Spanish at an elementary reading level. This directory should be updated every 1-3 years.
- Establish national toll-free consumer numbers with bilingual personnel for migrant and seasonal farmworkers for direct referral to national and regional resources.
- Insure that substance abuse information developed for migrant and seasonal farmworkers (i.e., through NIMH, clearinghouses, OSAP, etc.) is uniformly and consistently provided to agencies which have contact with farmworkers (e.g., migrant health centers, mental health agencies, law enforcement, income assistance/social service providers, schools, etc.).

### INTEGRATION/COORDINATION:

- Institute reciprocity between states for Medicaid coverage.
- Incorporate and/or develop mental health/substance abuse services within migrant health centers.

### LEADERSHIP:

- The National Advisory Council for Migrant Health and a network of migrant service providers should develop opportunities for migrant and seasonal farmworkers to identify the chronic, unabated problems which affect their own lives. These opportunities should be publicized through bilingual radio advertisement of when and where sessions are to be held, and greater person-to-person contact should be used in inviting participants. Such sessions should be held in ways which allow farmworkers to attend.
- Communities should be encouraged to use the "percolate up" model, and funding should be provided for initiatives which use this model. This should include a requirement that feedback be returned to a central clearinghouse, and that each program have a strong evaluation component to guide and justify future efforts.
- Technical assistance and funding should be provided to develop individual programs such as regional detox centers or brief risk intervention training for providers.
- The National Advisory Council should continue to take a lead role because it has done the introductory work, and should seek to expand its logical, emerging, and non-traditional alliances.

## Research/Evaluation

### Research:

- Reduce the difficulty of conducting research on the farmworker population and in determining and formulating research questions through the following:
  - Provide training in applied epidemiology as it pertains to programmatic needs.
  - Establish more linkages between academia and service providers.
  - Develop a list of researchers who are bilingual, bicultural, and culturally sensitive.
  - Advocate for the development and use of methodologies that take into account the special characteristics of the migrant and seasonal population.
  - Undertake an initial survey of providers (such as a research NIDA service survey, with the category Migrant added) with topical questions that, at a minimum, ask what languages services are provided in, percentage of clientele needing and being provided substance abuse services, referrals needed, and data collected.
- Identify and tap into new funding resources (e.g., NIDA, Office of Migrant Health, Office of Minority Health, NIMH) and informational resources (HANES, National Child Welfare League, Bureau of Census, law enforcement agencies). Develop a national professional network of organizations providing services to farmworkers and which could be used for collecting and transferring data.
- Encourage researchers to include research on farmworkers (RADAR, NIDA, Office of Migrant Health, NIH, and CDC).
- Develop a common definition of migrant and seasonal farmworkers across all programs which provide services to this population.

### Access:

- Distribute existing directories of available services to migrant and seasonal farmworkers.

### Leadership:

- The Office of Migrant Health and the National Advisory Council on Migrant Health should provide leadership in achieving recommendations pertaining to research and evaluation. Both groups should establish written agreements with federal and state agencies to enhance efforts on farmworkers' behalf.

## Policy/Standards/ Documentation

### Research:

- Federal agencies should provide funding for research that defines patterns, causes and scope of substance use/abuse; effectiveness of strategies; common data collection and evaluation tools; and model programs for migrant and seasonal farmworkers.

### Resources:

- Increase congressional appropriations for substance abuse prevention and treatment. Establish substance abuse prevention and treatment programs as a funding priority for federal agencies, and work in a proactive manner with constituency and federal agencies to target funds in migrant and seasonal farmworker communities, including provision of technical assistance in grantsmanship.

### Integration/Coordination:

- Increase interagency coordination through a variety of levels of coalitions, including 1) federal Health and Human Service agencies, Department of Justice, and Health Care Financing Administration, 2) state and local level agencies, such as substance abuse programs, state health/human service departments, county clinics, schools, and local governments, 3) regional (stream) coordination of migrant clinics and prevention/treatment providers, 4) higher education and professional training institutions to develop relevant substance abuse curricula, and 5) coordination at the international level.

**EDUCATION/ADVOCACY:**

- Create incentives for employees to create a drug-free working place by extension of the Drug-Free Workplace Act to the farmworker environment, enforcement of hazardous communications and Occupational Safety and Health Act, and union-employer-insurer partnerships.

- Social service organizations should promote and incorporate positive lifestyles, traditional cultural values and self-esteem development into substance abuse treatment and prevention. In addition, steps should be taken to make migrant and seasonal farmworkers full partners in local communities, including programs in the schools, community organizations, and local coalitions.

# Health Status and Contributing Factors for the Perinatal Life Cycle

**ANNE DOOLEN AND JAMES A. MARTIN, PHD**

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## Abstract

Our understanding of the specific character and extent of substance abuse among women in the seasonal and migrant farmworker population is obscured by cultural and gender differences. Lacking specific information about the disease among this population, our efforts to develop effective treatment strategies are not likely to be successful. A continuum of culturally and gender sensitive services is needed.

## Introduction and Problem Statement

Substance abuse among pregnant and postpartum migrant and seasonal farmworker women is an elusive, but significant problem. Elusive because of cultural and language barriers, and significant because of the very limited access farmworker women have to routine medical care, and particularly to substance abuse treatment services. Arredondo et. al. describe cultural and historical factors that have influenced attitudes toward alcohol consumption and warn against generalizing that all Hispanics have similar values and beliefs in this area. They also describe important sex-role differences within Mexican-American culture. Acknowledging diversity within the Hispanic population is only a first step in recognizing a much greater cultural and ethnic diversity among the larger population of seasonal and migrant farmworkers. Our understanding of the etiology of substance abuse in this population is obscured by a haze of cultural and linguistic barriers, not to mention significantly varying attitudes toward gender roles and substance abuse. Consequently, most information is subjective or anecdotal in nature, and we lack adequately rigorous studies upon which to base treatment strategies. Our understanding of the nature and extent of the problem in this special population is further limited by the mobility of the population, making controlled studies all the more challenging.

The issue of access to treatment is particularly relevant for the migrant and seasonal farmworker population. Despite the presence of Migrant Health Centers supported by the U.S. Public Health Service, financial access to care is a serious obstacle for many women in this population. Routine prenatal care is secured only with great difficulty, and then is often interrupted by travel to a different work site. The kind of close, confidential and supporting relationship that has been shown to be so important in encouraging women to acknowledge drug or alcohol dependencies is rare among patients and providers of prenatal care.

In short, we know very little about the extent and the nature of the problem of chemical dependency among this population, and if it is detected, our treatment resources are meager and, given the important cultural considerations, not very likely to be effective.

## Scope of Issue and Problem Status

Alcoholism and drug abuse among the male segment of the migrant and farmworker population is a well-documented problem. It is part and parcel of the economy and ecology of this population. Despite this, our treatment resources are very meager. Given the role and status of women in the Hispanic population, we know very much less about the extent of substance abuse in this segment of the population. While limited social drinking may be accepted in some situations, any public display is likely to be greeted with severe sanctions, with a strong effort to keep the condition "within the family" so as not to damage the family name. This pattern of denial makes it all the more difficult for health care workers to identify the problem when it is present, or for the client to seek help. The challenge of documenting the extent and character of this disease is deepened by the use of *curanderos*, or folk healers, before seeking treatment through the medical care system (Chesney et. al.). Studies of the incidence and prevalence of chemical dependency among other surrogate populations may put a general frame on the extent of the problem in this particular sub-population, but the status or scope of the problem must be described as undefined. Further, our understanding of the impact of cultural and socioeconomic factors on the etiology and progression of the disease is extremely limited.

Our understanding of the disease, particularly as it bears upon birth outcomes, is restricted even further by the limited access many farmworker women have to routine prenatal care. Through no fault of those who labor diligently to make prenatal health care available to farmworkers, the expectant mother faces significant obstacles in securing culturally sensitive, accessible, affordable prenatal care in communities, many of which would rather believe the migrant farmworker community simply does not exist. We must acknowledge that these services are limited at best, and rarely achieve the degree of patient/provider confidence that would encourage sharing information about a chemical addiction. Neither is it very likely that the health care provider has received appropriate training in eliciting and responding to such information. This is to say nothing about the virtual absence of culturally appropriate treatment services once a chemical dependency is identified.

## Factors Affecting Health Status

The health status of women of childbearing years is of critical importance to the progeny of any racial or ethnic group. It is influenced by a broad range of factors, not many of which can be reported on positively for the migrant and seasonal farmworker population. Low, marginal, or seasonal income affects financial access to prenatal care with an obvious impact on birth outcomes. More importantly, sustained low income is frequently related to nutritional deficits with a definite negative impact on birth weight. Low educational attainment has been identified as a significant risk factor for poor birth outcomes. While these factors have been studied in geographically stable populations, we know very little about their role in the farmworker population. What little we do know, however, suggests that the effect of these factors is likely to be cumulative and to result in infants and mothers who are at substantial risk.

A cluster of other factors which have only recently become acceptable to discuss bears importantly on the health status of migrant and farmworker women. Rape, incest, and physical abuse are identified much more frequently in populations where there has been some consciousness-raising among feminist groups and the population at large. Again, cultural values all bear importantly on the willingness of farmworker women to disclose these problems, but they appear to be considerably more widespread in other populations than people would like to acknowledge. They are most certainly identified as high risk factors for drug or alcohol dependence.

Attitudes in local communities regarding the responsibility for providing services to migrant and seasonal farmworker families will bear on the availability of health care services, and treatment services for substance abuse. Local attitudes and state regulations will affect the way that eligibility criteria are applied to seasonal workers. Applications for food stamps, WIC, or Medicaid can be expedited or delayed, depending on local community attitudes. Being denied access to these services, through delay or outright denial, can only have a negative effect on birth outcomes and on the mother's health. If entry into the medical care system is delayed or denied, then the substance abuse

problem will not be identified and treated, even if that problem seriously compromises the health of the fetus.

When discussing substance abuse services for women, whether preventive services or treatment, it must be recognized that in the best of communities these services are in extremely short supply. For women who are pregnant and are seeking inpatient care for a chemical dependency, there are virtually no services. And for pregnant women who have children they cannot or will not abandon, there are virtually no services at any cost. Given the strong emphasis on the family that is part of the cultural heritage of many Hispanic groups, the challenge of finding an appropriate treatment setting is severe. Finding such a treatment program that actively incorporates principles of cultural sensitivity in the understanding and treatment of the disease must be considered next to impossible. If people are struggling to hold their lives together while managing a chronic relapsing disorder and no one can offer an appropriate treatment program, the disease process will eventually win out. The tragedy, of course, in the special case of perinatal substance abuse, is that not only is mother left without needed treatment, but her child begins life at great risk of poor health and development.

## Impact of Health Status/Contributing Factors

Fetal Alcohol Syndrome, the term used to identify a broad range of physiological and neurological deficits in the newborn, defines the clinical impact for the infant born to a mother who drinks during pregnancy. There appears at this point to be no clear pattern regarding the range or the severity of the impact on the newborn. In some instances a most severe deficit has resulted from only minimal exposure to alcohol *in utero*. In other instances, aggressive, persistent drinking during pregnancy has had no detectable effect on the infant—though it nearly killed the mother. It has been well established, though, that *any* drinking during pregnancy exposes the fetus to the risk of FAS and the family to the grief and responsibility of caring for a child with severe physical and/or developmental problems. The fact that alcoholism is a treatable disorder only deepens the tragedy.

The fetal effects of cocaine, marijuana, heroin, and other drugs have not been as thoroughly studied, but even the earliest research shows patterns parallel to FAS. Ira Chasnoff's studies of cocaine babies have been widely circulated, and are being evaluated closely by the scientific community. Even if the follow-up studies sustain the severity of the fetal affects of cocaine, the numbers of infants affected will continue to be much smaller than the number impaired by FAS.

The impact of being unable to treat the mother's addiction, either because it was not identified in the course of routine prenatal care or because, once identified, there was no place to secure treatment, is predictable. The physiological consequences of excessive alcohol intake have been documented for many years.

## Current Trends to Address the Problem

Demonstration grants for services to pregnant and postpartum women, funded by the Office of Substance Abuse Prevention, are important in expanding the services available to women in need; these grants have emphasized the cultural sensitivity required for these programs to be effective. Careful evaluation over the next few years should begin to identify factors and program elements that are effective and can be incorporated into other programs. More careful supervision of the women's allocations in federal block grant monies is resulting in states' funding more services to women and being willing to explore some demonstrations of their own. The primary health care linkage initiative of the U.S. Office of Treatment Improvement should be helpful in sensitizing health care providers to the importance of screening for relevant risk factors during prenatal care.

Greater success is now being demonstrated in the intensive outpatient treatment programs, diminishing the reliance on inpatient treatment and making it infinitely easier for women with children to access treatment services. In some settings, intensive outpatient treatment for substance abuse is being co-located in medical facilities such as community and migrant health centers, again making treatment services much more accessible and providing support and training for the medical staff of these health centers.

Many states have responded to the OBRA amendments of 1989 by incorporating case management services for pregnant women in their state Medicaid plans. Perinatal case management offers an ideal setting to screen for risk factors for substance abuse, offer preventive services, and coordinate appropriate care if needed. It is clear that only a very small number of communities will be able to offer a full continuum of care for the pregnant substance-abusing woman, but

careful and creative case management may be very effective in matching needs with services and in establishing a supportive environment of the identification of chemical addictions.

## Summary, Future Options, and Recommendations

Clearly, we have insufficient information regarding the differences in attitudes, usage, and consequences of chemical addiction among women of the seasonal and migrant farmworker population. Additional study will be important, particularly of the cultural variations in these patterns. Careful evaluation of the OSAP pregnant and postpartum women projects should help with early identification of successful interventions that can be appropriated for the migrant community.

Much greater emphasis is called for in establishing continuity of care, to expand the options for treatment to more nearly match the stage of addiction and the availability of the mother to access care. Intensive outpatient services, particularly when co-located in medical facilities, diminish the transportation problems and reduce the stigma that so often attaches to people using "drug treatment" services. This will be even more important among cultures that have difficulty acknowledging that women can become addicted. In these services, as with others, attention must be paid to child care services if women are going to be able to stay in treatment.

It is important that the continuum of care include the community-based relapse prevention programs (AA-NA), and that as much as possible these programs become more culturally and gender-sensitive. Finally, staff training is a must—training of medical care providers, particularly those offering prenatal care—including case management, etiology of addictions, appropriate screening and assessment techniques, and treatment options available and how to access them. The training agenda must be extended to substance abuse workers themselves, many of whom have had no exposure to the important cultural and language issues that bear upon the identification and effective treatment of addictive disorders.

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# Substance Abuse Among Latino and Farmworker Adolescents

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## Abstract

This paper is divided into two parts. The first reviews the literature on substance abuse among Latino adolescents, with particular focus on Mexican-American youth. What studies there are show heavy use of marijuana, inhalants and alcohol, with experimentation beginning as early as age 10. Inhalants are often the first drug used by Mexican-American youth. Use is particularly common along the U.S.-Mexico border. Although Anglos are more likely to use alcohol than Latinos, Latino drinkers tend to drink more frequently and in larger quantities. Young Latinas drink less alcohol and use fewer drugs than males, but their drug and alcohol use is increasing.

Latino families often experience conflict between their native culture and American popular culture. Many recommendations, therefore, focus on helping Latino youth develop "bicultural competence."

There is almost no formal research data on substance abuse among migratory and seasonal farmworker adolescents. The second part of the paper, therefore, shares information NCAS has collected from farmworker youth and from adults who work closely with farmworker youth. NCAS's anecdotal data echoes in large part the formal research on Latino youth: alcohol, inhalants, marijuana and pills tend to be the first substances used, with a small but significant number of youth using cocaine and heroin. Drugs are readily accessible. Use by young Latinas is increasing rapidly.

Cross-cultural conflict compounds intergenerational conflict. Prevention efforts must include a focus on the family, educating both parents and youth about substance abuse prevention and helping both age groups address cross-cultural tensions. Interventions should build on deeply held values in the Latino community.

## Introduction

In order to avoid duplication in the background papers on adolescence, Nancy Vaughn and I have chosen to write on different aspects of adolescents and substance abuse. Vaughn's background paper focuses on substance abuse and the adolescent population in general. She reviews the major research on factors that contribute to adolescent substance abuse and current approaches to substance abuse prevention and treatment. Please read her paper first.

In this paper I narrow the focus to look at substance abuse among Latino adolescents and further still to look at farmworker adolescents.

## Substance Abuse Among Latino Adolescents

### Scope of Problem

Research on the extent and characteristics of substance abuse in the Latino population is scarce. Substance abuse studies of Latino adolescents, let alone of the difference in drug use between Mexican-American, Puerto Rican, and Cuban-American youth, are rarer still. When they exist, I will present data on Mexican-American youth, particularly in communities near the United States-Mexico border, since the majority of

farmworker youth are from Mexican-American backgrounds. I recognize, however, that farmworker youth come from many other racial and cultural backgrounds.

Most large, national studies of substance abuse among American youth have sampled in-school populations. School drop-out rates, however, for Mexican-American youth reach up to 45 percent.[1] Drop-out rates for farmworker youth are higher still. Since poor school performance is associated with greater use of drugs, the data on substance abuse by Latino adolescents is probably underestimated.[2] The absence of Latino identifiers in large national surveys also accounts for undersampling.[3]

What we do know is that Latinos are not only the fastest growing group in the American population, but also the youngest. Almost 44 percent of Latinos in the U.S. are under age 21. This means that a greater proportion of Latinos are in age groups at highest risk for drug and alcohol abuse.[4]

There are two main national surveys of Latino patterns of alcohol and other drug use. One is the 1985 National Household Survey on Drug Abuse (NHSDA) and the other is the Hispanic Health and Nutrition Examination Survey (H-HANES) conducted from 1982-1984. Both surveys showed that whites, regardless of age or sex, had the highest lifetime use of cigarettes, alcohol, tranquilizers, PCP, hallucinogens and stimulants.[5]

The data on cocaine use is confusing. While Puerto Rican and Cuban American youth had the highest rates of lifetime use of cocaine, only 4.2 percent of Mexican American youth had ever used cocaine.[6] Later studies, however, do show alarming use of cocaine and heroin among Mexican-American youth. Ten percent of high school students sampled in New Mexico used cocaine,[7] and 8.7 percent of Latino males in a Texas high school reported having ever used heroin.[8]

Use of marijuana, inhalants, and alcohol is high, with experimentation beginning as early as 10 years of age. Use by girls is increasing very rapidly.[9] Thirty percent of Mexican-American youth reported having used marijuana at least once and 10 percent had used it in the past 30 days. The median age of initiation for both Mexican-American males and females was 16 years.[10]

Inhalants are commonly the first drugs used by Mexican-American youth. Males usually began use around age 15 and females at age 14.[11] Inhalant use among Mexican-American adolescents is particularly common in communities along the United States-Mexico border. Mexican-American adolescents in Los Angeles used inhalants at 14 times the rate of the general population,[12] and 11 percent of the sixth-through-twelfth-graders in a small rural Texas community had used inhalants.[13] An Albuquerque, New Mexico study indicated that 12 to 16 percent of sixth through eighth graders used inhalants or solvents.[14] Adolescents in Arizona said they used inhalants and marijuana even before alcohol. Many adolescent users do not think of inhalants and marijuana as dangerous.[15]

Although whites are even more likely to use alcohol than Latinos, the Latino drinkers tend to drink more frequently and in larger quantities.[16] Thirty-four percent of Latino males aged 18-29, drank heavily, as compared to 17 percent of African-American and 29 percent of Anglo young adults.[17] They also began drinking early: 42 percent of the sixth graders surveyed in New Mexico reported use of alcohol.[18] Twenty-three percent of the Latino boys in a Texas study had their first alcoholic drink at age 12 or younger.[19] Although young Latinas tend to use much less alcohol than Latino males, their consumption is higher than that of women in their parents' generation.[20]

Any overview of substance abuse by Latino youth would be incomplete without mention of the connection between substance abuse and HIV infection. While Latinos comprise 8 percent of the U.S. population, Latino youth aged 13-24 make up 19.3 percent of all reported cases of AIDS in adolescents and young adults.[21] In a large percentage of these cases, needles, syringes, and other drug injection equipment were the direct route of transmission. In many other cases, the virus was transmitted through sexual contact with an HIV-infected drug user. Use of alcohol and crack cocaine are also major factors in HIV transmission. By impairing judgment and, in the case of crack, selling sex for drugs, these substances reduce the likelihood that youth will follow safe sex guidelines.

## Factors Influencing Latino Youth to Use Alcohol and Other Substances

Three major reasons are given as causes of substance abuse among Latino youth: intercultural conflict, poverty and family stress. There are obvious interconnections between the three. Twenty-five percent of all Latinos in the United States live in poverty.[22] These families face multiple disadvantages. It is well known that poverty and trauma affect self-esteem and create a sense of powerlessness with associated feelings of rage, isolation and depression.[23]

One indicator of alcohol abuse is a "disruptive family environment," defined by major events such as divorce

and illness. Authors of an OSAP report give particular mention to farmworkers: "Within the Hispanic/Latino population, there are special subsets, such as migratory and seasonal working families, that face remarkably challenging situations, which are sufficiently stressful to disrupt the family."[24]

For many Latino families, the stresses of poverty are compounded by conflict between their native culture and mainstream American culture. This cultural conflict frequently manifests itself as inter-generational conflict. Flores-Ortiz writes:

> *Drug abuse is related to a multi-generational pattern of losses (of family members, language and culture secondary to migration) which have not been completely mourned... to feelings of powerlessness which are often related to the experience of racial discrimination and the historical context of colonialism and neo-colonialism. Latino drug addicts and alcoholics typically are individuals out of balance; the imbalance often lies in the conflict between frozen cultural expectations, family obligations, and cultural identification.* [25]

Inter-generational conflict is an important and common aspect of family dynamics for many Latinos. Studies of Cuban-American families in Miami indicate "that families with the greatest parent-child differences in cultural orientation also had the highest level of intergenerational conflict. Along with such conflict came acting-out behaviors, including drug use."[26] Similarly, Chicano adolescent inhalant abusers were found to have a dual set of Mexican and Anglo values, with different degrees of commitment to each. The author of that study concludes, "It appears that cultural conflict is at the root of inhalant abuse among barrio children and adolescents using and abusing inhalants."[27]

## Recommendations

Not surprisingly, many of the recommendations for addressing substance abuse among Latino youth focus on addressing the social pressures on adolescents, on the one hand, and the cultural pressures of acculturation on the other.[28] By drawing on the cultural concept of "la familia," parents, extended family members, and the broader Latino community can be involved in prevention and treatment programs: "Historically, the pronounced orientation toward family which lies at the heart of Hispanic culture has provided the values which discourage the use of drugs and abuse of alcohol."[29] Charlene Doria-Ortiz, in congressional testimony on the subject, says:

> *The success of the Hispanic community-based prevention models depends to a great extent on the awareness and skills of policy makers to respond to the cultural strengths and resources found within our communities—"Nuestro Bienestar" (well-being)—healthy Mexican- American family lifestyles and behaviors which combat the negative environmental forces that encourage alcohol and drug experimentation and abuse within our communities.*[30]

Prevention efforts must equip Latino adolescents with coping, bicultural and social learning skills. Schinke defines bicultural competence as "the ability to blend the values and roles of native and surrounding culture."[31] He cites research indicating that Latino youth with bicultural competence have lower stress-related problem behavior risk than monoculturally oriented youth. He concludes that interventions should help adolescents apply their cultural heritage and skills to preventing substance abuse. Interventions would draw on the values of *dignidad, respeto, caridad, personalismo* and *confianza*. "An ideal program would provide Hispanic youth with coping, bicultural, and social-learning based skills while engaging their immediate and extended family and kinship network members."[32]

## Substance Abuse Among Farmworker Adolescents

I was unable to find any studies on substance abuse among farmworker adolescents. Although one hundred farmworker youth were surveyed for alcohol use by a migrant health center in Colorado three summers ago, clinic staff have misplaced the survey results. There is one study of alcohol use among African-American and Haitian farmworkers in upstate New York conducted in 1982.[33] (This study probably has limited application to our present consideration of the largely Latino adolescent population in 1991.)

The major part of this section, therefore, draws on rich anecdotal material collected by the National Coalition of Advocates for Students (NCAS) from October 1990 through June 1991.

## Background

NCAS' Viviremos Project works in farmworker communities to reach migrant and seasonal farmworker adolescents with effective HIV prevention and other health education. Between October 1990 and April 1991, project staff held three focus group meetings of farmworker adolescents and four focus group meetings of adults who work with farmworker youth. The meetings were held in Immokalee, Florida; Apopka, Florida; Yakima, Washington; and Harlingen, Texas. Each group was asked to identify the most pressing health issues facing migrant youth, to discuss barriers to addressing these issues and to suggest successful approaches.

This process culminated in a national meeting held in June 1991 in Delray Beach, Florida. To this meeting NCAS invited 22 adults from across the country who work with farmworker adolescents. They came from a variety of migrant health, migrant education, and community-based agencies. Nine had grown up in farmworker families, and two were still farmworkers. Also participating were seven farmworker adolescents from Apopka, Florida: four girls and three boys ranging in age from 12-16. These young people, all from seasonal farmworker families, are members of a peer education group of farmworker youth called Students Against Drugs and AIDS (SADA).

The purpose of the two-day conference was to develop an agenda for addressing the health needs of farmworker adolescents. Initially, conference participants were divided into four subgroups (eastern, central, western streams and youth group). Each group was asked to identify "the most pressing physical and emotional health issues affecting farmworker adolescents." All four groups listed substance abuse as a priority issue. For the second part of the national conference, subgroups were configured according to the priority issues identified.

The major part of the comments below were taken from the transcript of the sub-group on substance abuse. Participants included a migrant clinic director, two health educators based in migrant clinics, an outreach staff member of a farmworker community based organization, and two 16-year-old girls. They came from Colorado, southern California, Virginia, and Florida. In addition to the teenagers, two of the adults were from farmworker families.

## Scope of Problem

Alcohol and tobacco use is common and extensive. One teenager in a local focus group said, "All my friends drink. Even some girls are getting drunk. Usually it's the boys. They drive when drunk." Adults also remarked on the increasing use of alcohol by farmworker girls. An outreach worker in south Florida comments, "There are a great deal of teenage street parties and grove parties... a young adult male or female will rent an apartment and then invite all the kids that are skipping school. They come in to do alcohol."

The Apopka teens identified crack, pills, marijuana and angel dust as commonly used drugs. The pills included "reds, whites, downers, uppers and diet pills." They said that drugs were cheap and accessible. Since drugs are sold right outside the elementary school, kids have easy access to them from a very young age. While an adult from Florida felt that more sniffing occurred among settled out than migrant farmworkers, others had observed migrant youth sniffing White-Out, PAM and spray cans. A teenager maintained that adolescents had easier access to marijuana than to cigarettes and alcohol. Adolescents needed identification to purchase the latter, "but for that other stuff (i.e. marijuana), you just go to the street corner and get it."

Use of intravenous drugs was evident. A participant from Colorado said, "When the camps empty out, we find a lot of syringes." She felt certain they had been left by adolescents as well as by adults. An eastern stream participant sadly noted, "We had our first death of IV overdose last year, a migrant farmworker 21 years old." In the central stream, traveling from Texas to Colorado, drug dealers have been known to move with migrant groups of 200 or more workers. The dealer, not usually the crew leader, sells tobacco, alcohol, marijuana and IV drugs. In the eastern stream, crew leaders themselves sell crack cocaine.[34]

The migrant clinic director in Alamosa, Colorado recalled the data from the survey conducted in the summer of 1988. The clinic developed a questionnaire based on the questions asked by public agencies of people arrested for driving under the influence. The questionnaire was administered to approximately 100 migratory farmworker youth aged 12-18. Based on the number of questions eliciting "yes" responses, the youth were divided into two categories: those needing only education on alcohol abuse prevention, and those needing both prevention education and treatment for alcohol abuse. A surprising, and alarming, 75 percent of the adolescents surveyed fell into the treatment category.[35]

## Factors Influencing Farmworker Adolescents to Use Alcohol and Other Substances

Both adults and youth put peer pressure high on the list of influencing factors. In one teenager's words, kids are "trying to fit in, or maybe trying to be cool. You do not want to be known as the no-name." An adult from Florida felt that, for adolescents in migrant camps, alcohol and drugs form a bond. He has observed a "ritual of passing the bottle between members of the group. Every now and then they spill a few drops in memory of somebody who isn't there."

Other reasons cited by teenagers included stress, experimentation and a fatalistic outlook. "Most people just experiment. I mean they see other people doing it." Teens rationalize, "You only live once," or, "School, it's too much pressure." Other teenagers, they felt, concerned about building an image as a leader, try diet pills and steroids.

Seeing adults smoke, drink and sometimes use other drugs also influences adolescents to follow their example. Some held a cultural stereotype that Mexican men are supposed to be smokers and drinkers. Other youth do not recognize beer as alcohol.

Economics is also a powerful factor. Young people want money, and selling drugs is seen as an alternative to back-breaking work in the fields.

## Barriers to Addressing Substance Abuse Among Farmworker Adolescents

Conference participants identified barriers to both prevention and treatment programs. Treatment is expensive; funds are limited and inconsistent. Few farmworker youth have health insurance. Those who do qualify for publicly-subsidized services are often unaware of their eligibility.

A migrant farmworker's mobility poses tremendous problems both in terms of follow-up and length of a primary intervention. Treatment programs may take several weeks, often longer than the adolescent will remain in the area. Treatment may be rejected for fear of separation from family or from the migrant group that may move on. Services are fragmented, with little interagency coordination or interstate follow-up. The programs that do exist may not only lack bilingual and bicultural staff, but also staff sensitive to the particular developmental needs of adolescents. Fear that their contact with a clinic will not be kept in confidence from their parents inhibits many youth from seeking services. Undocumented youth may flee when referred for services, fearing deportation.

Both youth and adults cited many issues concerning the parents of farmworker youth. The youth at the national and local meetings perceived their parents as less informed than they on health and sexuality issues. One adult, concurring with this assessment, said, "The parents are almost afraid of the kids. The kids have had such broad exposure and experience that the parents have not had. There is little or no understanding." Huge cultural gaps between parents and children compound the usual generational gaps.

Not only did youth perceive their parents as poorly prepared to educate their children about drugs, they also found their teachers uncomfortable with any instruction on drugs, sex, and AIDS. Several adult providers confirmed this assessment, as time after time they, as migrant health staff, had been called in by classroom teachers to present these topics. Typically, the teachers' discomfort with these subjects was so great they would flee the classroom during these lessons.

## Recommendations

1. *Youth Input and Leadership*: The teenage participants repeatedly testified to the effectiveness of peer education programs. As one girl said, "To a peer, to your own, you can easily open up, because they might be going through the same thing. But to an adult... you have to earn the trust before you can speak to them." The SADA volunteers feel they know how to approach other teenagers in effective ways: "We let people know how dangerous it [drugs] is, but we can't make the decision for them...You don't tell a teenager not to do something, you know. You just let them know the bad things about it. But you tell them it's their decision whether they decide to pick their lives or death."

   In addition to specific peer education and counseling programs, youth input can be solicited in the development of other prevention and treatment programs targeted to teens. Teens can also be effective advocates and monitors. In Colorado, adolescents monitored liquor stores to see which merchants were selling to underage youth. They reported offending businesses to the authorities.

2. *Accessible Services Tailored to Teens:* Adolescent-specific health care is a relatively new development anywhere in this country. Outside of a few major cities, adolescent health centers are almost unknown. It is little wonder that, after many inquiries, I have only learned of only two teen clinics designed to serve migrant youth. A third program set up a temporary clinic in a camp where many teenagers lived. A handful of other migrant health centers have services geared to teens. Several clinics work with migrant education programs on prevention education.

   Participants at the NCAS conference strongly recommended the establishment of additional teen clinics whose staff is bilingual, bicultural, and trained to work with adolescents. Teens should be involved both in planning and running such a clinic. Teenagers could register clients, and with training, fill many other roles. A teen clinic, as well as other farmworker health programs serving adolescents, must provide transportation, open evening and weekend hours (including Sunday), an affordable sliding fee scale, guaranteed confidentiality, and services that are culturally sensitive and specific.

3. *Intervention Strategies for Leisure Time.* All participants stressed the need for alcohol- and drug-free recreational activities. They shared examples of alcohol-free commercial establishments. Isolated in remote rural areas, farmworker teens need alternatives to parties where alcohol and drugs will be present. As with other services, these activities must be designed with input from teens and be affordable and accessible.

4. *Parent/Family Education and Involvement.* Adult providers and youth strongly advocated for effective parent education. Parents need basic information about substance abuse and prevention. They also need to learn skills that will facilitate communication with their children on sensitive issues such as drugs, sex, and AIDS. Programs involving both youth and parents need to be established. Too often parents are brought in when a child already has problems. Parents may also need treatment for their own drug problems.

   One participant identified a need for family activities. She commented, "A lot of people said, 'We don't know how to get together as a family without there being alcohol present'." The parents themselves can be trained as "peer educators" to work with other parents around issues of parent/child communication.
   Given the cross-cultural conflicts many parents will be experiencing, it is critical that services for parents be offered in their preferred language and delivered in a culturally-sensitive context. Several youth mentioned that while they might not discuss drugs with their mothers, they might turn to a grandmother, aunt, or older sister. An approach based on "la familia" would incorporate extended as well as nuclear family members.

5. *Community Involvement.* Several participants urged that migrant services be coordinated with services in the local community. Community coalitions including migrant service providers, business leaders, and policy makers can enhance networking among agencies and ensure that farmworkers are served by local programs. They recommended a coalition specifically focused on serving adolescents. The gap between migrant youth and local youth must be bridged. Farmworker youth want to be accepted by local youth. While it is often easier to run specific programs for migrant youth, especially upstream, introducing farmworker youth to year-round residents can help to reduce the threat sometimes perceived by the local group. Establishing common meeting places can be a challenge.

   By working closely with local agencies, farmworker advocates can facilitate the establishment of programs within existing community structures, thereby providing a funding base and stability.

6. *Mentoring.* Farmworker youth, like all youth, need mentors. Teachers, counselors, health care providers, and others can serve in this role. A conscious effort, however, must begin in elementary school to see that farmworker youth have such role models.

7. *Prevention Programs.* Prevention education targeted at farmworker youth should draw on the increasing body of research on effective prevention education. In addition to providing accurate, up-to-date information, drug prevention curricula should teach communication, decision-making, and assertiveness skills. They should employ interactive learning strategies and help youth clarify their values. Testimonials from individuals recovering from substance abuse can be particularly powerful. While a classroom visit from such a person is best, films can also be an effective alternative.

   In addition to these basic guidelines for effective

prevention education, staff who teach farmworker youth should be bilingual and bicultural.

Training, and then involving, farmworker youth as peer educators not only increases the effectiveness of the prevention messages but ensures cultural sensitivity and adolescent appropriateness. Clinical services must be available as follow-up to prevention programs.

8. *Research on Substance Abuse Among Farmworker Youth.* There is a glaring need for credible research on substance use and abuse in migrant and seasonal farmworker communities. Data must be analyzed by different age groups, including adolescents. Such research must begin with a needs assessment, documenting the scope of use of alcohol and other substances. Researchers must ask whether farmworker adolescents are impacted differently by substance abuse than other adolescents and in what ways. Model programs targeted at farmworker teens need to be developed and funded. These and any existing programs must be evaluated and the results of such evaluation made available to others who can then determine their feasibility for local replication.

Concurrently there is a need for a national clearinghouse of information on farmworker health issues that would index data according to age groups and specific topic areas. Neither MSRTS, the National Migrant Resource Program, nor the National Clearinghouse for Alcohol and Drug Information had any specific data on substance abuse among migrant farmworker youth. Nor did a search of the ERIC database yield anything.

Clinic staff in Colorado had not thought to send a copy of their survey data to any of these places. Perhaps other migrant education and health programs have also surveyed adolescents on related issues. At this point, any addition, however small, would be a significant contribution.

Through collaborative efforts of migrant health, migrant education, and community-based organizations serving farmworker communities, such a clearinghouse must be publicized and migrant organizations, as well as university researchers, continually reminded to submit their studies. A concerted effort could be made to encourage researchers at universities, and especially at schools of public health, to direct some of their research to address this gap.

## CONCLUDING OBSERVATIONS

The anecdotal information gathered by NCAS echoes quite closely the more formal survey data on Latino youth:

- Alcohol, inhalants, marijuana and pills are the first drugs used.
- While more boys than girls use alcohol and other substances, usage by young women is rapidly increasing.
- Cocaine and heroin are used by a small, but significant number of youth.
- Tension between native culture and mainstream American culture creates not only cross-cultural conflict, but also inter-generational conflict.
- Prevention programs must teach adolescents bicultural skills as well as social learning skills.
- Prevention efforts should affirm and draw upon traditional values in Latino culture.
- Prevention efforts should include a focus on the family, both nuclear and extended.
- Prevention efforts should be community-based, involving CBOs, health programs, schools, and business leaders.
- Due to high school drop-out rates, prevention programs must be designed for out-of-school, as well as in-school, youth.
- Prevention must be linked with treatment.
- Research into patterns of substance abuse and effective prevention and treatment strategies is urgently needed for both populations.

As our focus narrows from the adolescent population in general to Latino adolescents and then to migrant and seasonal farmworker adolescents, substance abuse prevention strategies must incorporate the lessons of each preceding larger population and add new layers of specificity and complexity.

Prevention education for all adolescents should provide accurate, current and clear information. It should be skill-based and incorporated into the curriculum in age-appropriate ways at multiple grade levels. The addition of a peer education component is believed to be a major factor in motivating behavior change.

Prevention strategies for Latino youth, in addition to the above components, must address cross-cultural conflicts. Interventions should build on deeply rooted values in the Latino community such as *respeto*, *dignidad*, *caridad*, *personalismo* and *confianza*. Programs should have a family orientation and community approach. Staff of both prevention and treatment programs should be bilingual and bicultural, and services should be delivered in a culturally sensitive manner.

Prevention programs targeted at Latino farmworker adolescents must build on all the above while also addressing migration and other unique characteristics of the farmworker population. It is only with extensive input and active participation from farmworker adolescents themselves that programs can be designed to serve their multiple needs.

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# FARMWORKER SUBSTANCE ABUSE ISSUES AND CONCERNS FOR THE ADULT LIFE CYCLE

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## ABSTRACT

There are currently an estimated four million migrant farmworkers and their families in the United States (HHS, 1990). They are a very mobile population and the primary source of data is generally migrant health centers that are linked or integrated with hospitals and/or other health and social services existing throughout the United States (HRSA, Nd.) While some health-related data is available from these migrant health centers and from the Health Resources and Services Administration (HRSA), Bureau of Health Care Delivery and Assistance, substance abuse data is more elusive.

Accepting the challenge to develop an issues paper for this population that travels in "migratory streams" requires an aggressive attempt to retrieve data that is generally not recorded, through exhaustive university library searches and numerous contacts with Migrant Councils whose funding levels do not allow sophisticated data entry or collection techniques that would yield information to permit needs assessment and data analysis for developing appropriate programs to address substance abuse issues and concerns among this population group. It is also very difficult to research migrant farmworker concerns without discussing rural issues, since the two are often synonymous.

This issue paper will highlight: 1) Issues affecting substance abuse prevention among migrant and seasonal farmworkers, 2) Contributing factors, 3) Current efforts to address problems, and 4) Consideration of future options for a concerted national effort to impact on decades of neglect of a "silent force" involving an "invisible population."

## STATEMENT OF THE PROBLEM

The plight of migrant farmworkers' health and the lack of field sanitation rules have a history as long as the performance of farm work itself. There have been numerous articles, with revealing titles such as "Harvest of Shame" (Morris, Nd.) and"As Farmworkers Help Keep America Healthy, Illness May Be Their Harvest" (Goldsmith 1989), among other studies and dissertations that discuss maternal health, abuse, neglect, childhood health care, depression, oral health, intestinal parasites, pre-school, transients, nutrition, folk medicine, social services and, most recently, HIV/AIDS. However, there is a paucity of studies and recommendations related to substance abuse. Therefore, it is essential that a major focus with specific goals for generating this type of data be a priority for agencies and institutions involved with this population.

Who are the migrant farmworkers? "A migrant or seasonal farmworker is an individual whose principal employment within the last 24 months is in agriculture on a seasonal basis" (HRSA Nd.). There are differences between a migrant and a seasonal farmworker, in that the migrant travels and sets up a temporary home for employment reasons. Some migrant farmworkers travel a few hundred miles, while others travel more than a thousand miles as they follow the crops north

in the spring and return south in the fall. A "seasonal" farmworker is defined by the Department of Agriculture as "one who performs 25 to 149 days of farm wage work in 1 year" (U.S. Congress, 1990). There are currently an estimated four million migrant and seasonal farmworkers and their families in the United States (HHS 1990). They are a highly mobile population, and the primary source of data is generally migrant health centers which are linked or integrated with hospitals and/or other health and social services existing throughout the United States (HRSA, Nd.). There are approximately 122 migrant health centers that operate about 378 clinics located in over 300 rural areas in 35 states and Puerto Rico. These centers provide services to over 500,000 migrant and seasonal farmworkers, about 13% of the estimated eligible population.

Authorizing legislation for the migrant health centers is derived from the Migrant Health Act which was enacted in September 1962 by Public Law 87-693, adding Section 329 to the Public Health Service Act. There have been several amended sections to this legislation over the years. Funding for approximately 65% of these centers is also provided by the Community Health Center Program authorized under Section 330 of the Public Health Service Act.

Telephone surveys conducted with various migrant farmworker organizations confirm that substance abuse data is scarce or not available. The staff of the Arizona Affiliated Tribes, Inc., located in Phoenix, Arizona, when asked about specific subject information, responded, "We don't measure alcohol abuse problems." Contact with the University of Wisconsin-Eau Claire, which sponsored the 1990 National Rural Institute on Alcohol and Drug Abuse, shows that of seven tracks featuring 37 subject areas, none were on migrant farmworkers and substance abuse. This is not an indictment of the conference, but rather an observation that confirms the paucity of substance abuse data available for this population.

## STATUS OF THE PROBLEM

Data that demonstrates utilization rates of substance abuse services for migrant farmworkers appears to be non-existent. Therefore, problems of the "invisible population" may also be compounded by "invisible data." In order to develop baseline estimates of substance abuse and other behavioral problems that confront migrant farmworkers, this issue paper submits that it is necessary to apply needs assessment methods generally used for other population groups.

One such method used in Arizona is detailed in the Annual State Health Plan, produced by the Arizona Department of Health Services. This approach uses a formula that parallels federal methods. The basic premise is that a percentage of the population, in general, is in need of services. The need for behavioral health services is estimated to be in the following proportions:

| | |
|---|---|
| Mental Health | 12% |
| Alcohol Abuse | 8% |
| Drug Abuse | 4% |

Of the persons in need at any given time, only a certain percentage will seek or accept services. For the three disabilities reflected here, 25% of those in need will seek the services. Of the persons who would seek and/or accept treatment, some will receive treatment in the private sector and others will receive treatment in the public sector, if available (Adams 1990). Migrant workers will almost certainly need to utilize the public sector.

Therefore, by applying the above statistical methodology to the migrant and seasonal farmworker population, we arrive at the following estimates of need:

**Migrant Farmworkers N=4,171,419**

| Disability | Total In Need | Number Who Would Seek Treatment |
|---|---|---|
| Mental Health | 500,570 | 125,142 |
| Alcohol Abuse | 333,713 | 83,428 |
| Drug Abuse | 166,856 | 41,714 |
| TOTAL | 1,001,139 | 250,284 |

The applied methodology implies that, out of the estimated 4 million seasonal and migrant farmworkers, 1 million or approximately 25% of the population is in need of mental health, alcohol or drug abuse services, but only 250, 284 would actually seek the services, if available.

It would be of great benefit for the migrant farmworkers if these figures were challenged by readers of this issue paper. This information may spark the challenge to do an indepth study and research project of actual numbers of prevention and treatment centers funded in the United States, with incidence and preva-

lence rates established specific to seasonal and migrant farmworkers and their families.

Once we arrive at the actual number of services being provided to this population, unmet needs can be identified. We can then prioritize, develop, and/or enhance existing service centers.

## Factors Affecting Health Status

There are numerous studies and data sources available that describe migrant farmworkers' health status. A search of the MEDLINE database files conducted in July 1991, utilizing various descriptors focusing on migrant farmworker health issues, produced the following information:

> *A bilingual, multidisciplinary team of health professionals collaborated with a migrant health center in North Carolina to develop a model program to deliver primary health care services to migrant farmworker women and children. The program included case finding and outreach, coordination of maternal and child health services locally as well as interstate, and status of 359 pregnant migrant farmworker women and 560 children, ages birth to 5 years, the majority of Mexican descent, who received primary care services at the center. The mean age of the women was 23.1 years and their mean gravidity was 2.9. Dietary assessments showed that the protein intakes of most met or exceeded the U.S. Recommended Dietary Allowances, but their consumption of foods in the milk-dairy group and the fruit-vegetable group was below recommended standards. Low hematocrit was a common problem among the women (43 percent) and, to a lesser extent, among the children, (26 percent). Among the infants and children, 18 percent were obese. Black American women had the highest proportion of low birth weight infants.* (Watkins, et al, 1990)

Studies conducted on child abuse between 1983 and 1985 of approximately 24,000 migrant farmworker children in the states of New York, New Jersey, Pennsylvania, Florida and Texas found that "migrant children were significantly more likely to be maltreated than other children... ."

A computerized search of MEDLINE files from 1966 through October 1989 found that:

> *Four hundred eighty-five articles were scanned; 152 were found specifically related to migrant families, while another 51 articles addressed the health of agricultural workers or farmers in general. Solid data exist on dental health, nutrition and, to a lesser extent, childhood health. Data also were prominent in several disease categories including certain infectious diseases, pesticide exposures, occupational dermatoses, and lead levels in children. Estimates of the size of the migrant and seasonal farmworker population vary widely. Basic health status indicators such as age-related death rates are unknown. Prevalence rates of the most common cause of death in the United States have yet to be studied. More research is needed into the health problems and health status of migrant and seasonal farmworker families.* (American Journal Public Health, 1990)

Other studies conducted on farmworker health status indicate that there are higher incidences of maternal depression, dental health needs and intestinal parasites. As stated earlier, there is a paucity of national data on substance abuse among farmworkers. Most existing data are from farmworkers seen in federally-funded migrant health centers (MHCs).

A 1981 survey of MHCs found that obstetrics and hypertension were the most frequent reasons for visits to these clinics in 1979 and 1980. A 1984 survey of migrant farmworker families identified some major health problems in the population, including:

- ailments (e.g., urinary tract infections) associated with poor sanitation and overcrowded living conditions (e.g., lack of toilets, handwashing facilities, potable drinking water);
- a prevalence of parasitic infections that averaged 20 times greater than in the general population;
- acute and chronic illnesses related to pesticide poisoning, and
- hazards affecting the health of pregnant women and children. (U.S. Congress, 1990)

It appears that if this brief review of literature is an indication of migrant farmworkers' health status, prevention and treatment strategies need to be developed over a span beyond the year 2000.

## Impact of Health Status

A major contributing factor to the plight of migrant farmworkers is that their issues appear to be marginal among competing priorities for public health services (American Journal of Public Health, 1980). Since most states consider migrants to be temporary residents, they are deemed ineligible for Medicaid or AHCCCS. To compound the problem, health care in rural areas is limited or non-existent. Living conditions of migrant and seasonal farmworkers are, for the most part, very poor. In addition, annual income is significantly below the federal poverty threshold.

During a rural issues session sponsored by the Office for Substance Abuse Prevention (OSAP) in 1988, the following were identified as major issues facing rural programs that are applicable as gaps in substance abuse services for migrant and seasonal farmworkers:

### Major Issues Facing Rural Programs

| | |
|---|---|
| A. Youth | E. Staff |
| B. Families | F. Service Delivery |
| C. Communities | G. Rural vs. Urban |
| D. Management | H.Cultural Differences |

**A. Youth**

1. Lack of or shortage of resources
2. Lack of recreational activities
3. Need for relevant education
4. Need for drug and alcohol abuse education
5. Difficulty of accessibility to resources
6. Social isolation (friends live far away)

**B. Families**

1. Lack of community involvement
2. Exclusion from the system to assist/participate in the problem or solution to the problem
3. Lack of expectations

**C. Communities**

1. Inequitable funding
2. Need differential on unit cost due to higher transportation, communication dissemination and staff costs
3. Lack of facilities to run programs
4. Lack of transportation
5. Lack of financial sponsorship from local communities

**D. Management**

1. Shortage of professional staff
2. Shortage of medical facilities

**E. Staff**

1. Lack of privacy–high visibility of professional staff
2. Little support for staff–no backup system
3. Lack of transportation
4. New ideas are hard to come by
5. Lack opportunities to share ideas, techniques and knowledge
6. It is important to employ staff from both minority and majority cultures

**F. Service Delivery**

1. There is a lack of continuum of care services
2. There are networking difficulties
3. There is a lack of availability of youth services
4. Lack of coordination of services and communication with other related agencies
5. Lack of aftercare services

**G. Rural vs. Urban**

1. Hidden substance abuse
2. There are many privacy issues
3. Rural folks are separated by great geographical distance
4. Many rural youth have not had experiences outside their rural community
5. Lack opportunities to share ideas, techniques and knowledge

**H. Cultural Differences Issues**

1. There are many differences within same minority cultures
2. Cultural factors must be considered and given adequate weight in developing prevention programming
3. Materials must be developed with appropriate consideration given to reading levels and language

These contributing factors must be considered in determining health policy for migrant and seasonal farmworkers.

It is also important to approach these issues with an understanding that migrant and seasonal farmworkers are culturally diverse. While a majority of farmworkers in the Midwest and West are Hispanic, other geographic locations include Puerto Ricans, Jamaicans, Haitians, Blacks, Native Americans and others. The approaches must address the population and not just focus on one ethnic group.

## Current Trends to Address the Problem

Data on substance abuse in the farmworker population is seriously inadequate. Development of prevention and treatment programs in any community requires measures of incidence and prevalence. The alarming HIV/AIDS problem appears to have awakened community and public interest in developing education and prevention services for this population. Since migrant farmworkers are primarily identified as a "Hispanic workforce," the data that is used and most available for program design is approached from that perspective. The Midwest Regional Migrant Farmworker AIDS Education and Prevention Consortium states that:

> *In 1988, alarmed by the disproportionate effect of AIDS on Hispanics in the U.S., a group of agencies providing education and support services to the Hispanic migrants in the Midwestern United States formed a consortium to deliver AIDS/ HIV education and prevention services to this population. The agencies, as individual providers, had a long term proven record of providing education, advocacy and support services in the migrant community. They were trusted and respected by the migrant community, consequently they were the logical choice for the delivery of a sensitive subject such as AIDS education and outreach.*
>
> *The group, now formally titled the Midwest Regional Migrant Farmworker AIDS Education Prevention Consortium, sought and obtained funding from the Minority AIDS Grant Program of The Centers for Disease Control in Atlanta, Georgia, in the fall of 1988. The focus of the grant was to provide AIDS/HIV education and prevention outreach services to the midwestern stream migrant working in Wisconsin, Illinois, Minnesota, Nebraska and Michigan (North Dakota was added in 1989). The Consortium member agencies are: Illinois Migrant Council, Nebraska Association of Farmworkers, Michigan Economics for Human Development,Minnesota Migrant Council, United Migrant Opportunity Services Wisconsin, which provides the Consortium coordination and administration staff in addition to operating its own state-wide project.*
>
> *In the fall of 1988, after receiving approval of the grant from the Centers for Disease Control, United Migrant Opportunity Services, Inc., hired a project director to coordinate and direct the Consortium Project.* (Midwest Consortium, Nd.)

Numerous telephone calls were made to Idaho; California; Washington; Washington, DC; Texas; Maryland; Wisconsin; and Arizona to identify substance abuse treatment and prevention programs for migrant and seasonal farmworkers. The calls produced no results. It is anticipated that conference participants may serve as the primary information source to begin identification and documentation of the types of services available to this population group.

## Summary: Future Options, Recommendations and Priorities

Analysis of substance abuse issues among migrant and seasonal farmworkers is a critical process that must take into consideration population, organizations delivering services, current costs for substance abuse and prevention, number and location of service providers and the government's role in the provision of substance abuse and prevention services.

This issue paper did not focus only on Hispanic migrant farmworkers, since substance abuse problems extend beyond cultures. Risk factors that must be considered are: poverty, education, income, living conditions, field sanitation rule enforcement, lack of health care across state lines and incidence of disease. A federal advisory panel (the President's Cancer Panel) was recently told that there are "poverty driven lifestyles" that may include "unhealthy diets, greater use of alcohol and tobacco, occupational risks and reduced access to

medical care as high risk factors for poor people" (Associated Press 1991).

Specific recommendations that may be considered by participants at the First National Farmworkers Substance Abuse Prevention Forum are:

- Funding for a national substance abuse needs assessment study.
- A resource directory of Substance Abuse services for migrant and seasonal farmworkers.
- Conduct farm regulation seminars on field sanitation rules for all growers, employers, contractors, etc.
- Advocate for migrant farmworkers fund awards for treatment and prevention demonstration programs with the Office for Treatment Improvement (OTI) and with the Office for Substance Abuse Prevention (OSAP).
- Advocate for HIV/AIDS education funding with the Centers for Disease Control (CDC), among others.
- Review current Medicaid policies that may prevent access to health care due to residency requirements.
- Develop a national health care card and national registry to allow delivery of health services to migrant/seasonal farmworkers and their families.

These recommendations are not prioritized or all inclusive, but are intended as suggestions that may provide seeds for open discussion concerning critical migrant and seasonal farmworker issues which may be planted at this conference.

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# Farmworker Substance Abuse Prevention for the Perinatal Life Cycle

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## Abstract

Substance abuse has been identified as a national crisis both in the general population and among migrant farmworkers. One aspect of this crisis is the effect on the infant of the mother's drug abuse during pregnancy.

Mothers who abuse substances endanger their unborn infants and themselves. These mothers need to be identified as early as possible so that interventions can be provided to lessen the sequelae of the drug abuse on the mother and fetus. Health providers are in positions to provide identification and interventions.

Migrant workers, because of their lack of accessible, comprehensive regular health care are particularly at high risk for developing the sequelae of perinatal substance abuse for the mother as well as the infant.

Prevention and intervention programs can be developed by using behavior change and international health care theories that incorporate self efficacy of the migrant population. A multi-disciplinary team is needed to prevent fragmentation of services, develop resources, and develop programs. Research is needed to identify the extent of substance abuse in migrant mothers and their infants and to demonstrate the effectiveness of programs.

## Introduction/Scope of Issue

Substance abuse has been identified as a national crisis. Mothers who abuse drugs endanger their unborn infants and themselves. These mothers need to be identified as early as possible to provide interventions for ending the abuse or to provide treatment to lessen the sequelae of the drug abuse on the mother and fetus. Lack of a consistent, comprehensive method of identification of maternal and infant drug exposure is a problem that exists nationally.[1,2] Health providers are in positions to provide identification and interventions.

Migrant workers, because of their lack of accessible, thorough, and regular health care are particularly at high risk for developing the sequelae of perinatal substance abuse for the mother as well as the infant.[3-15]

Adolescents are another group at risk for substance abuse and pregnancy. Hispanics, particularly Mexican Americans, marry and have children while they are still in adolescence.[6,16] Prevention of substance abuse focused at this group can lessen the problem in adolescent mothers and their infants.[16,17]

Infants born to adolescent and young adult mothers who abuse substances are at high risk for chemical dependency and its sequelae. Presently only very few hospitals have formal programs for identification of substance abuse and there are no programs for follow-up, intervention, or referral. Many lack a means to perform a thorough substance abuse assessment of mothers and their infants during their hospital stay.[2] An objective assessment tool is needed.

Infants may manifest symptoms of substance withdrawal at birth or soon after, or may begin at a later date after leaving the hospital.[18,19] A major objective of the nation's drug and alcohol prevention policy is to reduce the adverse social and health consequences of substance abuse.[11,20] This includes newborn infants.

The cycle of substance abuse is detrimental and it is difficult to intervene to lessen the sequelae. The mother is at a very vulnerable time in her life when she has become pregnant and/or recently given birth to an infant affected by her drug abuse.[21] Educational intervention has a better chance for impact during these vulnerable times.[22-25] The mother is made aware of the reality of the infant, and what effect her drug use may possibly have on the baby. She may also be given incentive through the pregnancy and/or birth of her infant and its exposure to her substance abuse to attempt to quit her drug habit. However, the mother and infant must be identified before health education can be used to lower the risk to the mother and to the infant.

Physicians and nursing staff can encourage the identified mother to develop caregiving competence by demonstrating effective techniques of physical and psychological intervention. Nurses can also stimulate mother-infant attachment.[25-28]

Referrals to other health professions and the establishment of a multi-disciplinary team are means to provide prevention and interventions for this devastating health problem and its consequences.[4,7,16,19,21,24,28-35] Family involvement and support groups are integral parts to successful prevention and intervention with substance abuse.[6,7,13,16,28,30-47] A review of the literature was conducted to support the need and means for prevention and intervention.

## LITERATURE REVIEW

Migrant and seasonal farmworkers number over five million (85% of them minorities), who travel far from their permanent homes, following the crops to perform labor-intensive planting and harvesting; farmworkers work for low wages and live in rural isolation.[11] The majority are Hispanic, Black American, or Haitian. Although living in the United States, their demographic patterns, socioeconomic conditions, life-style characteristics, and disease categories reflect agrarian third world conditions.[48]

Hispanic Americans make up the largest group of migrant workers. Sixty-three percent are Mexican Americans, 12.7 percent Puerto Ricans, 11.5 percent Central and South Americans, and 5.3 percent Cubans.[14] These people share many characteristics, but each sub-group has unique characteristics. In matters such as education and income, Hispanics of Cuban and Central or South American origin are much closer to non-Hispanic Whites than they are to other Hispanic Americans.[14]

Three-fourths of Mexican Americans live in Texas or California, two-thirds of all Cuban Americans live in Miami, and 45 percent of Puerto Ricans are residents of metropolitan New York City. Mexican Americans have lower education levels, lower incomes, and lack of access to health care.[4,6,10-14,40,48] Twenty-six percent of Hispanics have no medical insurance, as compared to nine percent of non-Hispanic Whites, and 18 percent of Blacks.[14]

Family characteristics of Mexican Americans include large extended families, respect for the elderly, and male dominance.[14] Males use alcohol and drugs more than females.[10,13,45] Females are more often seen to use drugs and alcohol if they are second generation Mexican Americans.[13] Mexican American fathers who use violence in family discipline have sons with a higher incidence of delinquency.[45] Women exposed to violence, chaotic life styles, substance abuse, poor parenting, and child abuse are at risk for continuing the cycle of abuse.[8,15,28,31,37,43,44,49]

Mexican American women, particularly those born in Mexico, marry young, have a lower income, no health insurance, and have large families. They are more likely to experience more barriers to health care.[6] Wives often must obtain permission before decisions can be made.[14] These barriers present a bias in the data available on prenatal care and outcome because of lack of accessibility and lack of knowledge of the women of what has and is happening in past and present pregnancies.[8] Recent Mexican American immigrants have lower levels of substance abuse than second generation Mexican Americans.[15] Family structure changes are observed in the second generation Mexican Americans: there are more single female heads of household.[8,14,15,50] These single female heads of household have higher levels of use of alcohol and substances of abuse.[10,13] Pregnant mothers who abuse drugs are less able to seek prenatal care because of their obsession with obtaining drugs.[21,24] Characteristics of women who abuse drugs include higher marital disruptions, fewer sources of social support, more life stressful events, use of multiple substances, lower social economic levels, and lower educational levels.[13,15,21,31,36,42,47,50] Hispanic infants who have been exposed to maternal substance abuse are at high risk for the sequelae.[11,15,19,21,24,28,29,44,47,51-55]

## Incidence and Prevalence of Maternal Substance Abuse

To establish whether there was a need for prevention and intervention, the incidence and prevalence of substance abuse in mothers was investigated.

In the Hispanic American female population, 21.2 percent of Puerto Ricans, 6.4 percent of Mexican Americans, and 7.2 percent of Cubans reported a lifetime use of cocaine.[50] Hispanic females who spoke English and were born in the United States had a higher alcohol, cocaine, and marijuana use than females born in Mexico.[13,50] Second-generation Mexican Americans and Hispanics of Cuban and Central and South American origin, are much closer to non-Hispanic Whites in their use of drugs than they are to recent immigrants from Mexico.[5,10,13,14,50,52]

Indicators should be used in evaluating maternal and infant substance abuse. Maternal historical, psychological and physical signs and symptoms associated with substance abuse are listed in Tables 1, 2, and 3. Infants are passive victims of maternal substance abuse. Indicators of substance abuse exposure in infants are summarized in Table 4.

## Status of Issue

Substance abuse in migrant workers has been researched and verified as a problem. Mexican Americans of the second generation assume many characteristics of the non-Hispanic population as they acculturalize. Substance abuse is one such acculturalization. Research, however, is limited in its ability to identify the extent of the problem. Further research is needed for this purpose, and to establish the need for prevention and intervention.

Adolescence is a time of risk-taking behaviors. Substance abuse is one area where teens demonstrate such risk-taking behavior. Prevention of substance abuse has been shown to be successful with the use of mass media, school education programs, peer counseling, and teen workshops. Migrant farmworker teens need to participate in these types of strategies to prevent use of drugs and alcohol before they become parents.

Access to health care is a major problem for Hispanics who are migrant farmworkers. Many factors have been identified which impact on the lack of access to health care. Community participation, multi-disciplinary teams, community organizations, and migrant workers themselves must be involved in solving this problem.

Any success in providing improved health care and meeting the needs to enable solutions for prevention and interventions to break the substance abusing cycle will need to use behavior change, education, and international health care theories. Health care providers and educators will need to seek participation of the migrant people to change the behavior. The culture of the people must be incorporated into any solutions. Health care workers dealing directly must also speak the language to be able to recognize the subtleties of the culture and its people. By learning and speaking the language, respect for the culture can be shown.

Migrant workers have identified cultural prejudices, lack of understanding,and demoralizing attitudes as barriers to health care. Health providers will need to understand their prejudices, and health educators must be able to provide information to aid health providers and other educators to change these opinions. Unless health providers and educators change attitudes and opinions in themselves, they will not be able to provide the needed interventions.

*Curanderos* and other local healers are some community helpers that can be identified by the people to participate in education and training to be used as the first level of health care in the Hispanic community. By using local healers who are respected in the community, behavior change can be accomplished. Using a tiered health care team approach is one means of keeping the cost of health care down. The team is made up of more lower-education team members at the local levels doing most of the health care. Complicated cases are referred to the next level up until the needed care is possible. Manpower resources that are more expensive to obtain are therefore kept to a minimum. In our changing health care system a realistic look at financial resources supports this type of approach.

## Marketing

To conduct a program that will meet the stated and researched need, all disciplines that have interest; possible resources; contact with the target audience; are affected by the identified problem; have financial resources; and/or are involved with community at large must be included to participate in a team approach. Contact must be made and relationships developed to facilitate a comprehensive program that has the poten-

## Table 1
## Historical Evidence Associated with Maternal Substance Abuse

Part A. **Drug Related**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| AIDS in mother and/or close relative | 70, 71, 89, 2, 59 | Previous drug use | 81,92,60,61 |
| Alcohol use | 1, 81, 88, 89, 9, 2, 60, 61, 63 | Substance abusing spouse/ significant other/friend | 76, 81, 89, 59, 61 |
| Close relative drug use | 65, 23, 81, 88, 89, 60, 63 | Tobacco use | 75, 69, 77, 78, 84, 86, 2, 92, 63 |
| Hepatitis B | 71, 81, 89, 63 | | |

Part B. **Pregnancy Related**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| Previous infant(s) with fetal distress | 66, 67, 73, 74, 75, 84, 87, 90, 56, 59, 60, 63 | Premature infant | 64, 75, 66, 70, 71, 73, 84, 89, 56, 60 |
| Premature rupture of membranes (PROM) | 67, 73, 60 | Prenatal infections | 66, 71, 90, 60 |
| Infant with fetal distress | 67, 71, 73, 74, 75, 88, 89, 56, 59, 60, 63 | Previous premature infant(s) | 64, 75, 66, 70, 73, 89, 56, 59, 60 |
| Six or less prenatal care visits | 71, 74, 76, 77, 84, 86, 87, 2, 5, 6, 59 | Stillborns | 71, 73, 74, 87 |
| Placenta Abruptio | 64, 67, 70, 71, 74, 60, 63 | Spontaneous abortions | 67, 69, 70, 71, 73, 74, 78, 83, 89, 92, 56, 63 |
| Premature labor | 67, 69, 70, 86, 56, 59, 60, 63 | Therapeutic abortions | 73, 61 |
| Precipitous delivery | 87, 63 | Interuterine fetal demise | 87 |

Part C. **Socially Related**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| Less than high school education | 79, 83, 88, 56 | Sudden Infant Death Syndrome (SIDS) | 67, 70, 74, 83, 59, 63 |
| No religious affiliation | 81, 88, 62, 63 | Sexually Transmitted Diseases (STDs) | 75, 67, 70, 71, 84, 87, 92, 61, 63 |
| Law problems | 65, 81, 83, 85, 89, 63 | Unemployment of mother if self-supporting/spouse/significant other | 74, 84, 86, 89, 90, 92, 63 |
| Family dysfunction | 65, 23, 78, 81, 85, 88, 89, 59, 60, 63 | Unmarried | 92, 61 |
| Violence | 76, 85, 2, 60, 61, 63 | Teen pregnancy ≤ 19 years old | 64, 71, 73, 74, 23, 76, 77, 89, 90, 61, 63 |

**Table 2**
**Psychological Symptoms Associated with Maternal Substance Abuse**

Part A. **Mother Related**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| AMA (left hospital against medical advice) | 77 | Hallucinations | 82, 63 |
| Anger | 68, 78, 63 | Suicidal thoughts | 77, 89, 2, 45 |
| Anxiety, pronounced | 67, 71, 82, 63 | Mood swings | 71, 78, 84 |
| Anxious to leave hospital (first day) | 77 | Need for frequent medication | 84 |
| Conning behavior | 68, 78 | Panic reactions | 2 |
| Delusions | 2, 92 | Paranoid behavior | 8, 68, 71, 83, 2 |
| Depression | 65, 77, 82, 83, 89, 2, 57, 58, 60 | Poor self esteem | 81, 89, 2 |
| Euphoria | 68, 71, 78, 56 | Psychosis | 91, 57 |
| Excitation, unusual | 71, 82, 90, 56 | | |

Part B. **Infant Related**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| Lack of preparation for infant | 23 | Lack of interest in infant | 23 |
| Poor bonding | 23, 76, 80 | Unrealistic expectations of infant | 80 |
| Expressed dissatisfaction with infant | 80 | | |

tial to meet the needs of drug-abusing migrant farmworker mothers and their infants.

If a multi-disciplinary team approach is not used, fragmentation of services and resources will occur. One approach is the mix of various health-providing disciplines invited to meetings such as the Western Stream Forum and Farmworker Substance Abuse Conference for which this paper was prepared.

Once groups have met, plans for proceeding should be developed by consensus of group opinions and discussions. Members representing different localities should bring the broad general plan back to their geographic areas for further meeting of local multi-disciplinary members for discussion and refined planning. The group can decide on a particular emphasis of the general program plan. Theories of behavior change should be used at each level of discussion and planning.

The next major step is to determine by research the importance of a program to prevent and intervene in migrant farmworker maternal and neonate exposure, as perceived by the target population of the local project. If a perceived need by the target population is determined to exist, then community participation is sought. Approaches are mapped out by communication, using behavior change theories. Only through these processes can a lasting behavior change occur.

Mass media when properly executed has demonstrated success in preventing substance abuse.[106] A lot has been learned about the use of mass media in sending messages to convince people to change behavior. Cost effectiveness is a suitable criteria for developing a mass media approach, wherein success of each health promotion effort is gauged in relationship to its cost per unit. Campaigns that incorporate an issue of on-going public concern, consumer orientation, and commercial marketing and research-based principles of behavior change can be successful.

Key elements of mass media for successful campaigns are: 1) Specification of a well-defined target audience; 2) Formative research to understand the target audience; 3) Messages that build from the audience's current knowledge and satisfy its pre-existing needs

## Table 3
## Physical Signs and Symptoms Associated with Maternal Substance Abuse

Part A. **Physical Findings**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| Alcohol breath | 68, 78, 84, 61 | Nystagmus | 82, 85 |
| Conjunctivitis | 68, 78, 85 | Obesity | 90 |
| Diarrhea | 90 | Palpitations | 90, 56 |
| Diaphoreses | 90 | Peripheral vasodilation | 71, 90 |
| Epistaxis | 85 | "Poppings" | 90 |
| Difficulty focusing | 85 | Pruritus | 90 |
| Glazed eyes | 85 | Pupillary constrictions | 90, 85, 56 |
| Hives | 90, 56 | Respiratory depression | 90 |
| Hypertension | 64, 75, 71, 90, 56 | Rhinitis | 90, 56 |
| Impaired coordination | 2 | Slurred speech | 85 |
| Increased respiratory rate | 2 | Severe acne | 72 |
| Lowered temperature | 90, 56 | Skin abcesses | 84, 90 |
| Lacrimation | 90 | Sleepy or stuporous | 70, 86 |
| Look older than stated age | 67, 83 | Tachycardia | 71, 84, 87, 90, 93 |
| Malnutrition (thinness, limp hair, etc.) | 64, 70, 69, 71, 2, 90 | Tatoos | 72, 84 |
| Muscle spasms | 84, 90 | "Tracts" | 85, 90 |
| Nausea/vomiting | 84, 90 | Yawning | 90 |

Part B. **Behavioral Observations**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| Lack of eye contact | 85 | Violent behavior | 1, 2, 60 |
| Insomnia | 90 | Ravenous appetite, persistent | 87, 90 |
| Forgetfulness in conversation | 85 | Restlessness, pronounced | 71, 80, 84, 90, 60 |
| Presence of drug literature, clothes/accessories manifesting drug culture | 67, 68, 78, 85 | Poor hygiene/grooming | 68 |

Part C. **Complications**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| Bronchitis | 90 | Necrosis or perforation of septum | 67, 90, 56 |
| Cardiac arrhythmias | 70, 90, 56 | Pulmonary edema | 90 |
| Cellulitis | 84, 90 | Respiratory arrest | 87, 90, 56 |
| Cerebral hemorrhage | 71, 90, 56 | Seizures | 64, 87, 2, 90, 56, 63 |
| Myocardial infarction | 70, 87, 90, 56 | Stroke | 71, 87, 90 |
| | | Toxemia | 75, 84 |

## Table 4
## Infant Signs and Symptoms Associated with Substance Abuse Exposure

Part A. **Physical Signs**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| Apnea | 63, 66, 68, 5, 64 | Large for Gestational Age | 68, 104, 56 |
| Diarrhea | 70, 71, 98, 103 | Limb deformities | 63, 96, 71, 7, 3, 101, 90, 5, 6 |
| Excoriation of nose, knees, toes | 70, 98 | Mottling | 98 |
| Extended extremities | 94, 66 | Nasal stuffiness | 98 |
| Fever | 5, 67, 70, 98, 104 | Regurgitation | 75, 98, 59 |
| Frequent yawning | 98 | Respiratory distress | 98, 59 |
| Head abnormalities | 64, 73, 74, 101, 82, 90, 56, 59 | Respiratory rate ≥ 60/minute | 98, 59 |
| High pitched cry | 63, 67, 23, 98, 86, 104 | Small for Gestational Age or Interuterine Growth Retardation | 74, 66, 96, 69, 73, 74, 75, 90, 93, 56, 59 |
| Hyperactive reflexes | 70, 98, 2 | Small head circumference | 66, 97, 99, 103, 105 |
| Hypoglycemia | 96, 56 | Sneezing | 70, 98 |
| Hypotonia | 23, 70, 2 | Sweating | 66, 70, 98, 104 |
| Increased muscle tone | 94, 66, 27 | Tachycardia | 66, 70, 104 |
| Irritability | 63, 70, 71, 23, 27, 98, 2 | Tachypnea | 66, 70, 104 |
| Jitteriness | 63, 27, 103, 56, 59 | Tremors | 94, 66, 70, 23, 70, 98, 104 |
| | | Vomiting | 98, 103 |

Part B. **Behavioral Signs**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| Auditory inattentiveness | 70, 23 | Gaze aversion | 63, 23, 83 |
| Continuous high-pitched cry | 63, 67, 23, 98, 86, 104 | Poor feeding | 63, 23, 70, 98, 59 |
| Difficult to comfort | 23, 27 | Sleeps <1 hour after feed | 70, 98, 100, 104, 59 |
| Frantic sucking of fists | 70, 98 | Sleeps <2 hours after feed | 70, 98, 100, 104, 59 |

Part C. **Complications**

| Indicator | Reference | Indicator | Reference |
|---|---|---|---|
| APGAR ≤6 at one minute | 74, 101, 57, 58 | Fetal Alcohol Syndrome | 69, 102 |
| Biliary Atresia | 96, 82, 56 | Meconium staining/ aspiration | 23, 71, 73, 86, 90 |
| Convulsions | 63,66, 70, 98, 101, 104, 59 | Prematurity | 5, 95, 70, 103, 93 |
| Genitourinary, cardiac, and central nervous system anomalies; cerebral infarcts, atresia of the bowel, necrotizing enterocolitis | 63 | Sepsis | 71 |
| | | Stroke in utero | 83 |

and motives; 4) A media plan to guarantee exposure to the campaign; 5) Procedures for evaluating progress; and 6) A long-term commitment.

Dejong and Winsten (1990) state that organizers need to develop a long-term strategic plan that divides their campaign into distinct phases, each with measurable objectives whose achievement will directly facilitate or otherwise set the stage for behavior change.[106] They suggest such objectives might be to 1) establish a health problem as a priority concern; 2) increase knowledge and change beliefs that impede the adoption of health-promoting attitudes and behavior; 3) motivate change by demonstrating the personal and social benefits of the desired behavior; 4) teach new behavioral skills; 5) demonstrate how various barriers to behavior change can be overcome; 6) teach self-management techniques for sustaining change; and 7) provide supports for maintaining change by stimulating interpersonal communication; the support of opinion leaders, spouses, or peers; and broad changes in perceived social norms.

These principles of mass media are applicable to the formation and effective implementation of school or community- based programs by recruiting new program participants and community volunteers, announcing the availability of self-help materials and program activities, and reinforcing the face-to-face instruction provided by these programs.

Given limited financial resources, what health advocates can achieve is greatly determined by their network of contacts among local or national leaders in the entertainment, public relations, and advertising industries and in the news media. Local advocacy groups and school- or community-based programs should be linked up with campaign organizers.

Focus groups may be interviewed to identify and analyze various subgroups defined by demographic, psychological, or problem relevant characteristics. This method is both inexpensive and quick. However, it also has some limitations. Respondents are not selected at random and may not be representative of the target audience, and a group format may be inappropriate for highly-charged or embarrassing topics. Private, one-to-one interviews conducted by trained interviewers or clinical psychologists have two main advantages: 1) respondents are usually more willing to share highly personal information in a private interview; and 2) there are no group dynamics to bias subjects' responses. This method is more expensive and time consuming, and still may not represent the target audience.

Once qualitative research has been conducted, it should be followed by surveys and other quantitative methods to test the hypotheses generated whenever possible.[106]

## CONCLUSIONS

Substance abuse in the perinatal period in any population can be devastating for the mother and the infant, and the family. Migrant farmworkers are at risk due to their poor access to health care, low income, low educational level, geographic inaccessibility, and isolation from the mainstream culture. When substance abuse is combined with the under-served Hispanic population, the problem increases. Since substance abuse does not occur in a vacuum, the life cycle, support groups, and many other areas must be addressed to meet the challenge of preventing and intervening in the cycle of abuse.

Reducing alcohol and other drug abuse is a migrant-specific health objective for the year 2000. Meeting this objective will also influence other objectives. These objectives include improved nutrition; improved mental health and prevention of mental illness; reduction of violent and abusive behavior; prevention and control HIV infection and AIDS; improved maternal and infant health, reduction of adolescent pregnancy and improved reproductive health; prevention, detection and control of chronic diseases and other health disorders; improved health education and access to preventive health services; and improved surveillance and data systems.

A commonality of theme can be found between a number of theories of behavior change. The people who are the target population—that is, migrant workers who may become substance-abusing mothers and current substance-abusing mothers—must participate in any decisions to intervene in the drug and alcohol abuse problem. Health behavior can only be changed if the individual wants the change, believes the change can occur, and has the resources to change. Any program developed must incorporate these factors to be successful.

The future options to prevent and intervene in migrant workers maternal substance abuse and neonatal exposure are many. One can view the problem and direct the focus of program development to any aspect of the cycle of abuse. Prevention of substance abuse has been successful, as the reduced national high school statistics verify. Specifically, using known means (mass media, education through school, church and local

teen organizations, peer counseling, etc.) and applying them to the migrant adolescents is one such aspect of intervention in the cycle of abuse.

Another focus could be research to demonstrate the depth of the problem by identifying maternal substance abuse and neonatal exposure. Intervention can not occur if the problem is not identified. Statistics that accurately represent the extent of the problem will enable health care providers to develop funding to meet the need for health care in this population. Intervention will then be able to assist the mother into rehabilitation if possible, provide support for her and/or her family, aid the mother in learning the needs of her affected infant, and give her the means to deal with the many behavior and developmental problems that may exist or develop. Dynamics of the Hispanic family, such as the dominant male and respect of the elderly, can be incorporated into the program to increase the possibility of success. By intervening at this stage of the drug abuse cycle, physical abuse of the infant/child can be reduced because of the mother's increased ability to understand and handle the infant's difficult behavior, and increased ability of both the infant and mother to bond. Mothers who achieve sobriety will reduce the cycle of abuse by their behavior to their children and family members.

Intervening at the migrant community level will provide self-help groups and support systems. It will improve self esteem of the mother and family members, and provide resources within the culture for the mother and her family. Lasting behavior change will become a reality for many in their battle with substance abuse.

Sequelae of substance abuse in mothers and their infants can be dealt with at earlier stages to avoid or diminish once the abusing mothers and infants are identified. Mental health disturbances can be reduced. Child abuse, both physical and sexual, can be reduced. Help can be given children to deal with their drug-induced mental and physical disabilities.

## RECOMMENDATIONS AND PRIORITIES

Recommendations/priorities for the achievement of the reduction of migrant farmworker perinatal substance abuse are:

1) Multi-discipline teams should be formed to avoid fragmentation of resources, increase the development of resources, and improve the success of any program of prevention and intervention.

2) Hospital-based research can use an assessment tool to identify mothers who abuse drugs and infants who are exposed to drugs. Demographics would identify the migrant worker population.

3) Focus group interviews by members of the migrant worker community could identify the problem. Corollaries between statistics found in the local hospital and the migrant community could show a greater dimension of the problem.

4) Development of the use of Hispanic local healers to identify the problem could lead to success in one-to-one interviews.

5) Local midwives could also be incorporated into a system to identify the problem.

6) Once the extent of the problem is known, funding sources could be developed to finance prevention and intervention strategies.

7) Prevention programs can be developed to decrease substance abuse in migrant adolescents.

8) Intervention programs must include the abusing mothers and their families in the development, planning and institution. Self efficacy must be part of any program. Self-help groups should be included in any program for addiction.

9) Educational programs to reduce the sequelae of substance abuse can be designed migrant culturally specific to increase their possibility of achieving of improved function and decreasing the cycle of abuse.

10) Migrant health care programs can incorporate the theories of international health by developing a tiered system. Migrant farmworker helpers can be trained to provide health care and prevention at the local level, and to use referral to provide care that is required by the population. Using this system, the cost of health care can be kept within the financial resources available. Health care is in the process of being reduced at all levels because of financial deficits. Means which have not been previously used must be developed to be cost efficient.

11) Data must be generated in every effort of identification, prevention and intervention in migrant perinatal substance abuse. Data is necessary for evaluation of programs and identification of areas that will need to be improved. Demonstration of achievement of the objectives can only be provided by gathering data. This step must not

be neglected for program accountability and future program development.

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# Education, Advocacy, and Resource Development for the Farmworker Adolescent

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## Abstract

Nationally, research has been done to determine adolescent substance abuse. This paper summarizes the trends of adolescent alcohol and other drug use. It also identifies various risk factors associated with adolescent use and the protective factors associated with non-use. The components of effective programs are highlighted and strategies involving the whole community are suggested.

## Introduction/Scope Of Issue

Substance use and abuse among adolescents continues to be a problem in our nation. Use of chemical substances disrupts the natural process of social and emotional development and jeopardizes academic achievement. The problem of drug and alcohol use is considered to be one of the nation's most serious health problems. Nationally, research has been done to determine use of various substances by adolescents. Since 1975, the National Institute on Drug Abuse has provided annual figures and indicated trends. The survey is based on a representative sample of 16,000 seniors in 132 high schools.

Alcohol remains the most commonly abused drug among adolescents. The seniors in the class of 1985 reported 66% had used alcohol in the past month, and 1 in 20 seniors used alcohol daily (NIDA 1986). Over the past 15 years, Dr. Lloyd Johnston of the University of Michigan has surveyed high school seniors as well. Class of 1988 statistics indicated 92% had tried alcohol, and more than 1 in 3 took five or more drinks in a row at least every other week. About 25% of eighth-grade students reported having had five or more drinks on one or more occasions during the past two weeks.

Children are beginning to drink earlier and are beginning to drink more heavily at younger ages. The average age of first use of alcohol is 11.5196 years old (Johnston 1988). Data released by the White House Drug Abuse Policy Office indicated that children experience pressure to use alcohol as early as the fourth grade. One of the risk factors for developing an adult drinking problem is early onset of drinking (Hawkins 1985).

Other substances being used by adolescents include marijuana, cocaine, cigarettes, and inhalants. About 50% of high school seniors have tried marijuana; about 1 in 4 smoke marijuana at least once a month. Six percent of eighth grade students report using marijuana during the past month (National Adolescent Student Health Survey 1988). About one of every 15 adolescents has tried cocaine. Two percent of the eighth grade students and three percent of tenth grade students report having used cocaine during the past month (National Adolescent Student Health Survey1988).

Cigarette smoking is declining among adolescent males, but not among females. One of every five adolescents smoked cigarettes during the past month. About one of every 10 boys and one of every 100 girls reports having chewed tobacco or used snuff during the past month (National Adolescent Student Health Survey1988).

Seven percent of eighth grade students and five percent of tenth grade students report having sniffed glue

**Table 1**
**Highlights from the High School Survey, the Class of 1988**

| | Ever Used (%) | Past Month (%) | Daily Use (%) |
|---|---|---|---|
| Alcohol | 92.0 | 63.9 | 4.2 |
| Cigarettes | 66.4 | 28.7 | 18.1 |
| Marijuana | 47.2 | 18.0 | 2.7 |
| Stimulants | 19.8 | 4.6 | 0.3 |
| Inhalants | 17.5 | 3.0 | 0.3 |
| Cocaine | 12.1 | 3.4 | 0.2 |
| Tranquilizers | 9.4 | 1.5 | 0.0 |
| Hallucinogens | 9.2 | 2.3 | 0.0 |
| Sedatives | 7.8 | 1.4 | 0.1 |
| Crack | 4.8 | 1.6 | 0.1 |
| PCP | 2.9 | 0.3 | 0.1 |
| Heroin | 1.1 | 0.2 | 0.0 |

*Notes:*

*This table shows the percentage of high school seniors from the Class of 1988 who have used drugs. "Ever Used" refers to having used at least one time. "Past Month" means that the student used the drug at least once in the 30 days prior to the study. The High School Senior Survey report from which these numbers were taken is available from the National Clearinghouse for Alcohol and Drug Information, P.O. Box 2345, Rockville, MD 20852.*

*These numbers were gathered in an annual nationwide survey conducted for the National Institute on Drug Abuse by the University of Michigan Institute for Social Research. The 1988 survey involved more than 16,000 high school seniors from public and private schools.*

during the past month (National Adolescent Health Survey1988).

These survey results from a variety of sources indicate that some adolescents are not making positive health decisions. Keep in mind that these figures do not reflect those who have dropped out of school. We know this population has a higher risk of developing an alcohol or other drug problem. This is especially true of Latino youth, who have a dropout rate of 45 to 80 percent.

The specific picture of adolescent Latino drug and alcohol use is fragmented and much of the available data is contradictory, according to Austin and Gilbert (1990). The evidence, however, does indicate that Latino youth are a population at serious risk of developing problems with several substances. It appears that the alcohol use rate of Hispanic/Latino youth is similar to that of Anglo youth. Latino/Hispanic youth tend to drink in larger amounts when they drink, and there appear to be gender differences in use rate, with Latinas using at a lower rate than males.

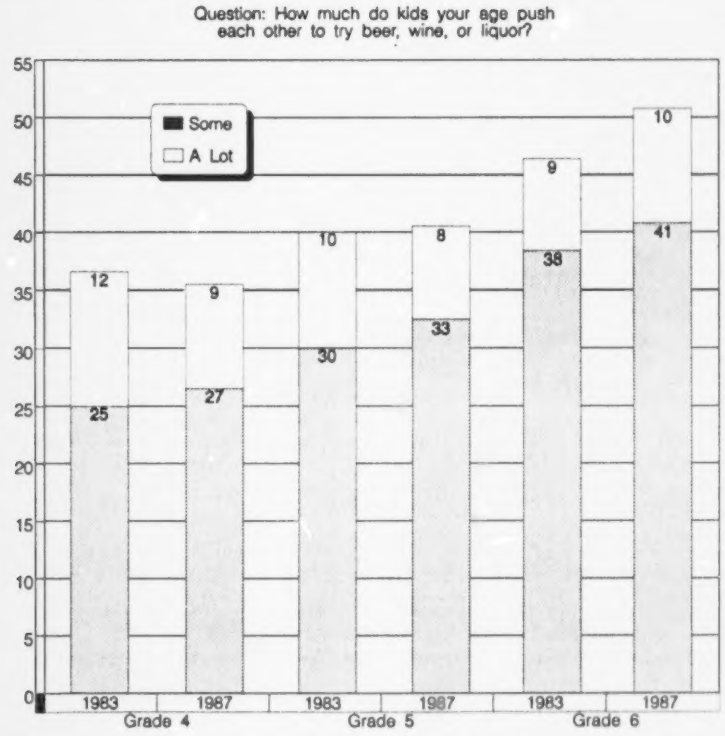
Researchers Austin and Gilbert point out considerable concern over male Latinos who use alcohol at increasing rates. These Latinos begin drinking in late adolescence and become heavy drinkers as adults. Latino adolescents appear to have higher rates of multiple substance use and begin such use earlier (Brunswick and Messeri 1984; Gilbert and Alcocer 1988).

There is variability in use patterns reported among Latinos because of the cultural differences within the Latino populations. Research that examines large community differences needs to be done to provide an accurate assessment of cultural differences and their influences on adolescent use and abuse.

## Impact of Alcohol and Other Drug Use

Alcohol and other drug problems have a serious impact on individuals, families, and communities. Problems surface as illnesses, automobile injuries/fatalities, incest, child abuse, assault, vandalism, rape, and many other crimes (OSAP 1990).

**Figure 1**
**Perceived Peer Pressure to Try Alcohol, as Reported by Children, Grades 4-6, for Years 1983 and 1987**




*In grades 4-6, there was a drop in the perceived peer pressure to try marijuana from 1983 to 1987. The largest drop—6 percentage points—took place in grades 4 and 5. The pressure to try beer, wine, and liquor, however, remained nearly the same in each grade and continues to show a steady increase through the grades, from 36 percent in grade 4 to 51 percent in grade 6.*

*Adapted from the* Weekly Reader National Survey on Drugs and Drinking, *Middletown, CT: Field Publications, spring 1987.*

Other lives are affected as well if a youth is involved with substance abuse. Families experience strained relationships and youth may participate in high risk sexual behavior that may result in pregnancy or sexually transmitted diseases. The consequences for youth encompass the previous list of problems as well as the disruption of their social, emotional, and intellectual development. Youth fail to learn the skills necessary for social interaction and for dealing with stress, anxiety, and boredom in healthy ways. The impact is also felt in communities as loss of lives, lack of productivity, and increases in morbidity, treatment expense, crime, and incarceration.

## STATE OF SCIENCE

### BEHAVIORAL CAUSES

If alcohol and drug use is the problem, a number of studies have found certain behaviors to influence this problem. Antisocial behavior in grade school has been found to predict adolescent substance use (Robins 1978; Johnston et al 1978; Kandel et al 1978). Rebelliousness in children also is correlated with initiation of drug use (Smith and Fogg 1978). Early initiation of substance use is linked with a higher risk for substance abuse (Robbins and Prizybeck 1985). Another highly linked behavior influencing alcohol and drug use is associating with peers who use (Hawkins et al 1985).

**Figure 2**
**America Has a Big Problem with Alcohol and Other Drugs**

** As reported in the NIAAA Special Report to Congress, 1983.*
*All other percentages were reported in the NIAAA Sixth Special Report to Congress, 1987.*

Bonnie Benard, in her research, has found that in addition to behaviors which influence alcohol and drug use, there are protective behaviors that seem to influence non-use. These include:

- having success in school with academics
- participating in extracurricular activities, i.e., athletics, drama, music, etc.
- having a warm, close relationship with an adult
- being involved in meaningful and productive school or community projects.

## Non-Behavioral Causes

There are non-behavioral factors that influence alcohol and other drug use. These can be personal and/or environmental factors. Examples include age, sex, housing situation, school environment, etc. In Michael Rutler's research, a number of these factors seem to influence alcohol and drug use. Low socioeconomic status, families with marital discord, family history of use (especially if the mother was alcohol- or drug-dependent), being male, negative school climate, more than two stressful life events or situations occurring simultaneously, and chronic, long-lasting stressful situations all increase the risk of developing problems with alcohol and drugs.

## Education Diagnosis

Now we will look at the predisposing, enabling, and reinforcing factors that affect the behavioral causes.

### Predisposing

The predisposing factors, according to Lawrence Green, are the motivating qualities of the knowledge, values, attitudes, and beliefs an individual brings to a given situation.

**Knowledge** – Studies indicate that teens do tend to decrease the use of substances when they have been given information that indicates there is significant risk involved in using a substance. Knowledge alone does not always change behavior, but it is necessary before a healthy action will occur. The accompanying chart indicates that the rates of use for cocaine and marijuana have declined gradually since 1985. The decline is attributable to an increase in perceived risk, not a decrease in availability.

**Attitudes**—Personal attitudes impact the chances of a student developing an alcohol or drug problem. A negative sense of the future, academic underachievement, and feeling unacceptable or inferior are all factors in susceptibility to drug use (Garmezy 1982).

Attitudes of parents and peers have also been shown to influence the use of alcohol and other drugs. Hawkins indicates that parents' positive attitudes toward use, the student's positive attitudes toward use, and peers' favorable attitudes toward use are all factors that influence the initiation of use.

**Beliefs**—Jessor (1977) found low religiosity to be a factor in adolescent alcohol and drug use. Adolescents who have strong religious values seem to be at less risk for developing problems. Hawkins determined that families that place a high value on education and strongly bounded families where caring and communication were present prevented alcohol and drug problems.

## Enabling

These factors are forces that facilitate the achievement of the designated outcome, e.g., preventing the initiation of alcohol and drug use at an early age. The factors included skills and resources needed to prevent the behavior and the availability and accessibility of resources that provide services. In addition, the priorities of the community will affect the outcome.

**Personal skills**—Students who lack interpersonal skills are unable to cope with stress, make positive health decisions, or deal with peer pressure. Students need communication skills, decision-making skills, coping skills, self-discipline skills, planning skills, and relationship skills in order to have the self efficacy to change and the ability to manage themselves in health-enhancing ways. Garmezy states that competency in these skills "may well be the key to the patterning of vulnerability or invulnerability to psychopathology."

**Resources**—Availability and access to 1) educational programs that promote and teach these skills, 2) student assistance programs, 3) mentorship programs, and 4) opportunities for youth involvement have often been a problem. With the lack of funds to support these programs and the lack of expertise to develop them, there has often been little to offer in the way of skill-building opportunities. Effective programs need to be flexible, visible, innovative, and accessible in order to work (Hawkins 1987). A review of existing programs in the community will be needed to assess what resources are available for this effort. Each community may have different cultural needs.

## Reinforcing

The forces that strengthen the motivations and actions of an individual are the reinforcing factors. Green indicates that reinforcement comes from parents, peers, teachers, health professionals, religious institutions, and other community groups. When all of these outside influences are communicating consistent, positive messages, the result is a child who is more protected from the risks of alcohol and drug abuse. When family discipline and individual responsibilities are made clear and the family atmosphere is tolerant, accepting, and provides the child with opportunities for success, the result will be a resilient child. When those factors are not present, the child is at risk for using alcohol and other drugs. Also, if the child associates with using peers, the behavior to use is reinforced.

When there are rewards and recognition for a specific behavior, a person is more likely to continue in this behavior (Green 1980). This idea of reward and recognition needs to be addressed in prevention programs attempting to prevent initiation of use. Programs need to be designed to address all of the educational factors to be effective and successful.

The Educational Diagnosis is summarized on the next page. The factors are listed to the left, and the importance and changeability of the factors are rated to the right. The importance and changeability are given a H (high), M (medium), or L (low) rating.

# State of Science—Effective Programs

The National Prevention Network has compiled a list of important attributes of effective prevention programs. These twelve attributes are very important to consider when developing a comprehensive community approach to alcohol and other substance abuse among Latino adolescents.

1. Program planning process
2. Goals and objectives
3. Multiple activities
4. Multiple targets/populations
5. Strong evaluation base
6. Sensitive to the needs of all

## Educational Diagnosis Summary

| Factors | Importance | Changeability |
|---|---|---|
| **Predisposing** | | |
| 1. Lack of knowledge about dangers of alcohol and other drugs | M | H |
| 2. Social acceptance of alcohol/other drug use | H | M |
| 3. Low self-esteem and feelings of hopelessness | H | M |
| 4. Poor values clarification | H | M |
| 5. Family history of alcoholism/drug use | H | L |
| 6. Belief of invulnerability to dangers | H | M |
| **Enabling** | | |
| 1. Lack of interpersonal/refusal skills | H | H |
| 2. Lack of positive role models | H | M |
| 3. Lack of access to student assistance programs, peer tutoring, programs, etc. | H | H |
| 4. Easy availability of illicit drugs and alcohol | H | L |
| **Reinforcing** | | |
| 1. Lack of communication skills between parents and teens | H | H |
| 2. Lack of availability of community resources for teens | H | M |
| 3. Lack of religious beliefs | H | M |
| 4. Lack of access to community activities, recreational resources | H | H |
| 5. Lack of opportunities for developing life skills and career planning | H | H |
| 6. Lack of a positive school climate | M | H |
| 7. Lack of a multi-generational kinship network | H | M |
| 8. Peer group that encourages drug use | H | M |
| 9. Lack of enforcement of alcohol/drug policies at school | H | H |
| 10. Lack of family concern about drug use | H | M |

*Adapted from Green and Iveson, et al. 1980.*

7. Part of an overall health promotion and health care system
8. Community involvement and ownership
9. Long-term commitment
10. Multiple systems/levels
11. Marketing/promotion
12. Replicability

Perhaps the most important conclusion we can make from over two decades of research is that the causes of risk-taking behaviors by youth are many; therefore, the solutions must be varied. Lack of social bonding, friendship choices, opportunities, and life changes have been found to be factors in use and abuse (Benard 1987). These theories indicate that personality, lifestyle, behavior, and environment play a part; solutions to these complex issues will not be simple (Green 1980).

There are some promising programs in prevention research that are thought to influence the initiation of alcohol and other drug use in youth.

> *For the broad range of alcohol and drug problems strategies for intervention differ; but there are some common elements. They include prevention through education that starts early and extends throughout life; altering the social climate of acceptability; reducing individual and social stress factors; and law enforcement.* (DHEW Healthy People, page 137)

Community prevention efforts that use many strategies are the most effective (Klitzner 1988). Programs that involve youth in the solution, change community policies and norms, involve all facets of the community,

create positive alternatives, support the family's role, focus on education and awareness activities, and help develop skills are some examples (Klitzner 1988). The programs that focus on health and the promotion of success have been found by researchers to have the most impact. Just focusing on one risk-taking behavior such as substance abuse probably won't work. Also, more generic prevention programs that include all youth and target many behaviors have been shown to be more successful (Jessor 1977).

Green indicates that prevention strategies should include health services, health promotion, and health protection components. Much needs to be done to coordinate existing services and to collaborate on developing a comprehensive approach with services accessible for all economic levels.

Communities which develop a comprehensive plan outlining goals and strategies and which incorporate the social learning theory will be more successful at stemming the tide of Latino substance abuse. The social learning theory, developed by Albert Bandura, indicates that experiential learning is the best and strongest influence over behavior. Using modeling can be a way of directing and changing behavior. In Bandura's theory, learning is acquired and shaped by positive and negative reinforcements from one's own behavior as well as observing other people's behavior (Amatetti 1987).

Another theory that could be incorporated into community strategies would be the health behavior theory developed by Jessor and Perry. This theory indicates that health promotion should 1) awaken and eliminate behaviors that compromise health in the four domains of health (psychological, physical, social, and personal), and 2) strengthen and introduce behaviors that enhance health (Amatetti 1987).

## Status of Issue

Latino youth are exposed to a high number of environmental risk factors. Delgado indicates in his research that alcohol and drug abuse among Latino youth is rooted in a failure to resolve conflicts between parent and peer value systems (Delgado 1988). Moore (1978) also stresses the influence of the poverty subculture and drug marketing as an integral part of the barrio economy. Peer use of drugs and alcohol appears to be a particularly strong influence on Latino adolescents' decisions to use alcohol and/or other drugs, as is the modeling of heavy drinking practices by males in the Latino culture.

## Marketing

To market a program using the diffusion theory, the first level of the target population to contact would be the innovators. These would be Latino community members, parents, and students who are already involved in prevention activities on their own. This group—along with the early adopters, who are the opinion leaders of the school and community—might be targeted for community leadership training. The training would give them information on what leadership means, what strategies might help their community, and culturally sensitive skill-building sessions on communication skills, decision-making, refusal skills, setting goals, action planning, etc. This training would provide a motivated group of parents, students, and community members who would then be capable of influencing the early and late majority groups to participate in activities and programs developed by the community prevention task force. These early adopters and innovators are valuable resources and should also be representatives on the community task force. This group will make decisions and set goals and objectives to meet the needs of high-risk Latino children and families in the community.

Once the goals and strategies are determined, a mass media campaign can be used to create interest in the programs. Latino radio and television stations should be involved in the effort. Posters, school announcements, and assemblies that include the entire family will be more effective with Latinos in the community. Community newspaper people might participate. Home visits and involvement by personal invitation to join the effort would also be effective, as would identifying the "elders" in the community and getting support for the project or program.

Encouraging the early majority group to tell a friend about the program would help reach the members of the late majority. The early majority could also host a "Buddy" or "Bring a Friend" activity where each person attending brings a friend or family member who hasn't yet participated in the program to reach the same group. This group will adopt something if it's accepted by a lot of people, and are most influenced by peers and early majority role models.

The late adopters will need incentives and rewards to be motivated to participate. Using a T-shirt contest or food at meetings (pizza or traditional Latino food to discuss the starting of a SAP or mentorship program) will help attract the late adopters. Offering food or rewards at the end of participation in a program (movie

passes, bowling passes, dinner coupons, etc.) would also be a useful strategy.

The last group to adopt a program or project are the more isolated groups. Specific intervention is needed with this group; programs may need to be mandated. Establishing policies at school that mandate comprehensive health education for all students and policies that have an up-to-date alcohol and drug policy with an intervention component would reach some of the students who will not participate unless required. Classroom strategies that require all to participate would be valuable for this group.

Parent and community groups that are isolated may require a special effort to involve them. Worksite programs could teach skills that reinforce families as well as benefit worksite functioning.

Community agencies and businesses might adopt policies that would require education or counseling if alcohol and drug problems surfaced at work. With certain groups who have language and accessibility barriers, providing interpreters and transportation to events would increase participation.

## Summary, Future Options, and Recommendations

The prevention program according to the National Prevention Network needs to include a marketing approach that showcases the positive effects prevention has within the community and the effects it has on individuals and systems. Policy makers should be included in the marketing strategy, and mechanisms by which programs can achieve self-sufficiency should by built into the design.

The current priorities research of Klitzner concurs that broad-based community programs with specific objectives are showing promise. In addition, school discipline and alcohol and drug policies are important to establish the expected behavior. Parent involvement is also crucial if the child is to be successful in delaying the initiation of alcohol and drugs.

1. Before a prevention program is initiated, it is important to listen to the Latino sub-group, include the total family in the effort, and develop educational efforts that will reduce the shame in Latino families about reaching out for help with alcohol and drug problems.

2. There is a need for development of creative, culturally sensitive educational methods and materials. The following are recommendations taken from a variety of sources.

   - Educational curricula that integrate the affective, cognitive, and psychology domains for learning in a culturally relevant fashion
   - Bilingual/bicultural personnel to deliver the curriculum
   - Gender-specific materials (OSAP 1990)
   - Use of folk healing practices
   - Attention to language, social environments, family issues, cultural values, sex and age roles, religion, and community orientation (Singer, Davison, Yalin 1987).

The following are strategies to incorporate the health behavior theory and social learning theory that a community might choose to meet their goals.

1. Identify children of alcoholics in grades four through eight and provide support groups for those children. The focus of the group will be identifying feelings, role playing, coping skills, and acknowledgments.

2. Provide parenting classes at homes, worksites, or churches to strengthen family systems in need of reinforcement.

3. Implement a comprehensive health education curriculum at school that addresses pro-social skills, decision-making skills, coping skills, peer-resistance skills, and life planning skills, and is culturally relevant.

4. Develop a peer tutoring program and teaching strategies workshops to promote schools without failure, utilizing culturally competent role models.

5. Establish a community supported apprentice or mentoring program to encourage healthy adult-youth relationships and model healthy lifestyles.

6. Provide opportunities for students to play meaningful roles in the community by establishing community service projects and opportunities to serve on board and committees —not separating out high-risk youth, but encouraging all to participate.

7. Develop cross-age opportunities where older youth can provide non-use messages to younger youth. Cross-age activities could include "Buddy"

programs, a youth partner program, or performing groups which use music and theater skills to deliver a message.

Empowerment of Latinos can be achieved by 1) enhancing problem-solving that develops self-awareness and decision-making, 2) personal planning that develops self-determination and goal-setting, 3) personal leadership that develops courage and self-discipline, and 4) personal integration that develops and self-acceptance and self-trust (Galan 1988).

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# Education, Advocacy, and Resource Development for the Adult Migrant Farmworker

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## Abstract

Preventing drug and alcohol abuse among adults is a societal issue which has clear data supporting its need and a public reaction which acknowledges its importance. However, limited attention is actually provided to "adults and prevention," and research findings are similarly limited. This background paper identifies some of the concerns surrounding drug and alcohol abuse, including some of the foundations of addictive and problematic use of drugs and alcohol. A review of the medical model, the continuum of care, and the public health model are identified. A multi-dimensional framework for addressing drug and alcohol issues is presented to provide a contextual understanding of the complexity of this issue as well as to provide some foundations for planning prevention strategies.

## Introduction/Scope of Issue

The Third Triennial Report to Congress on Drug Abuse and Drug Abuse Research acknowledges that "no domestic issue captures the attention of the American public to the extent that drug abuse does" (p. vi). In addition, "drug abuse has become a major problem in the United States, affecting multiple facets of American life" (p. 13). These bold statements illustrate the importance of drug and alcohol issues. However, why is it that drug abuse and alcohol abuse continue to pose problems, if indeed they are a high priority with the public?

One response serves as the foundation of this background paper: *Alcohol and other drug abuse prevention among adults is often overlooked.* This same report acknowledges that "little is known... about [drug use] patterns among the middle-aged and elderly. Reportedly, alcohol and cocaine use among the former, and abuse of alcohol and prescription drugs among the latter, merit additional attention" (p. 32).

As we examine the topic of prevention among adults more carefully in this background paper, we must first acknowledge several important elements of prior efforts to address drug and alcohol issues.

1. The main emphasis has been upon drugs other than alcohol. .
2. The primary target audience has been youth.
3. Most emphasis has been upon addressing addiction, with a secondary focus upon problems.
4. Evaluation findings, particularly of a longitudinal nature, are limited.
5. Program initiatives which emphasized alcohol looked primarily at drunk and impaired driving.
6. Approaches identified were of a rather focused nature, emphasizing single initiatives rather than complex and interdependent efforts.
7. Most approaches have a focus upon the individual.

This background paper provides some foundations for addressing the prevention of drug and alcohol abuse among the adult population. This issue can, quite understandably, be a broad topic. The difficulty in a paper of this nature is one of space limitations–attempting to address the issue in a meaningful yet succinct manner. The ultimate goal within the context of this paper is upon *applications*–how can both the

content and the process of what we know be applied in a meaningful way to a specific audience?

This background paper, then, will examine a variety of contextual issues regarding the prevention of drug and alcohol abuse among adults. The scope of the current paper is to lay out much of what we do know and have done, not to identify all of the solutions. From a pragmatic perspective, the American society has limited resources to address any social issue. We have thus needed to identify priorities, and could not reasonably address all of the issues. Further, we as a culture have had some blinders on, and have not seen certain aspects of the drug and alcohol issue (or have deemed them to not be important).

## Impact on Specified Group

The goal of preventing alcohol and other drug abuse among adults is an extremely high one. Further, it suffers from lack of clarity. In its purest sense, if the goal is to prevent all abuse, it is necessary to clearly define "abuse." Different definitions exist regarding abuse issues. One research study of young adults examined the extent to which problems related to alcohol use were cited in the professional literature; 38% of the articles cited some problem, and a variety of examples of "problem" were used (Saltz and Elandt, 1986).

From a related perspective, an examination of prevention will be determined by how we define the ultimate impact. Specifically, what are we trying to prevent? Are we talking about addiction? Problems? Reduced productivity? Loss of potential? One federal document states that "prevention efforts are aimed at reducing the adverse effects of single bouts of drinking as well as the social and medical problems that arise as a result of persistent high-risk drinking by alcohol abusers and alcohol-dependent persons" (p. 209, *Alcohol and Health*).

Numerous documents point to the fact that alcohol and other drug use affects the adult population. "During the past two decades, drug abuse in the U.S. has increased dramatically. Based on surveys done in the 1970s we estimate that in the early 1960s less than 5 percent of the population had had any experience with illicit drugs. Nearly a quarter (23 percent) of adults age 35 and older had tried illicit drugs by 1988" (pp. 14-15, *Drug Abuse and Drug Abuse Research*). This same report identifies some encouraging recent downward trends in drug abuse prevalence. Roughly ten percent of the general population will experience some problems related to alcohol use, including alcoholism (NIAAA, 1991).

Alcohol use patterns show recent downward trends in per capita consumption, reducing from a high of 2.76 gallons of pure alcohol in 1981 to 2.54 gallons in 1987. "Nevertheless, alcohol is used by more Americans than any other drug, including cigarette tobacco... 73.4 percent reported drinking alcohol in the past year" (pg. 14, OSAP)

Broadening the perspective beyond the individual provides further information about the impact of drug and alcohol issues. Looking at the *family*, "the abuse of spouses by their partners and the abuse of children by their parents continues to be highlighted in the media and the clinical literature" (p. 171, *Alcohol and Health*). From an economic perspective, "assuming that the drinking pattern in the United States remains constant, the economic cost of alcohol abuse and dependence is projected to increase from $116.9 billion in 1983 to $136.3 billion in 1990 and $150.0 billion in 1995" (Harwood et al, 1985). (These figures exclude any effects of inflation.)

Other effects of drugs and alcohol are highlighted throughout the professional literature: use during pregnancy and its effects upon children, involvement in crimes, hospital care, health care, on-the-job injuries, safe job performance, physical and emotional abuse of the family, breakdown of the local community, and damage to societal values. When examining any type of personal, family, social, or cultural problem, it is helpful first to examine what role, if any, drugs and/or alcohol played in the development or exacerbation of the problem. Based on statistical reporting alone, it is quite likely the drugs and/or alcohol were both causal and contributing factors to the depth, duration and extent of the problem.

Again, raising a question identified at the outset of this background paper, if we know all of this, why is it that the problematic behavior continues? Or, more directly related to the specific emphasis of this paper on prevention with adults, what can be done to address this?

One perspective that is helpful is to understand why individuals become involved with drugs and/or alcohol. There are a variety of factors causing an individual's involvement, and these rarely operate in isolation from one another. We find social, cultural, emotional, physical, and spiritual reasons for becoming involved.

> *The etiology of drug abuse is complex, varying over time, across geographic region, by drug, and by demographic char-*

> *acteristics of drug users. Peer pressure, curiosity, depression, hedonism, attempts to increase or improve performance, rebellion, alienation, and a host of other reasons have been proposed to explain why people use and abuse intoxicating substances.* (p. 26, Drug Abuse and Drug Abuse Research)

Discussions, interviews and research suggest that people become involved for a variety of reasons. We find reasons from an individual perspective and reasons from an environmental perspective.

One point that is becoming increasingly clear in the professional literature is that of the genetic background for addiction. An individual who is from a family which has alcohol abuse or alcoholism in it is more likely—for physical reasons—to become an alcoholic. The relationship is not a simple cause-effect one, however. "Research indicates that both genetics and environment are involved in the development of alcoholism and alcohol abuse" (p. 60, *Alcohol and Health*).

Thus, when we look at "prevention," it may be helpful to look at the medical model which includes primary, secondary and tertiary prevention. We can view the prevention issue along the continuum of care which roughly parallels the medical model. This continuum includes four elements: prevention, intervention, treatment, and aftercare. Specifically, we can see primary prevention as a way of preventing any use or abuse of drugs or alcohol. It has as its emphasis the avoidance of involvement with drugs or alcohol. Secondary prevention emphasizes addressing drug and alcohol problems at the earliest possible time; when a problem or a series of problems occur, an intervention is appropriate to halt more serious use. Tertiary prevention seeks to minimize an individual's return to using drugs or alcohol following treatment for problematic use. This aftercare effort is an ongoing life issue, both for the identified individual and for those surrounding him/her.

This broadened view of prevention may be helpful, as the "traditional" view suggests that we are trying to prevent any drug and alcohol use. When examined in the adult population, this is viewed by many as an inappropriate goal, and "too late."

We may also wish to expand our perspective beyond the emphasis upon the individual. While we are concerned about an individual's harmful involvement with drugs or alcohol, we are also concerned about a cycle of problematic use with others whose lives are affected—spouse, children, co-workers, and friends. We are further concerned about how their activity and interaction affects the identified individual. That is, the identified individual and those around him/her probably have a reinforcing relationship. The vicious cycle which has undoubtedly developed deserves attention and some effort to break the dysfunctional interaction.

> *Although it is not yet feasible to present a lengthy list of interventions of prone effectiveness, considerable progress is being made both in understanding the problem to be solved and in exploiting the multiple methods for its effective solution.* (p. 41, Drug Abuse and Drug Abuse Research)

At this point, a framework for consideration is important. Many people immediately think of *addiction* when the issue of "problem" is addressed. We suggest that these topics be separated, and offer three distinct considerations.

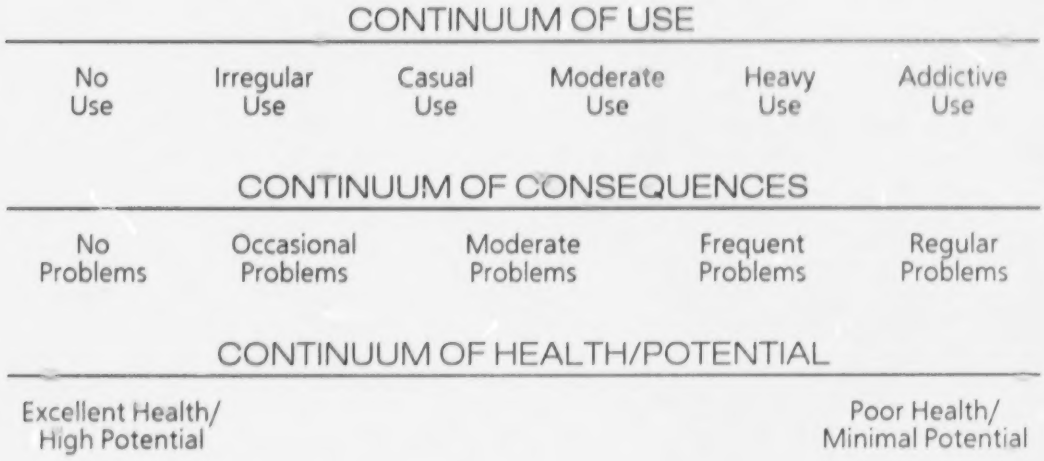
First, when thinking of a person's pattern of use, this can be seen along a continuum from no use to addictive use.

Many individuals place a distinction between "no use" and any use. It is proposed that the distinction *not* be placed here. Rather, we place another continuum parallel to the continuum of use—this would be a continuum of consequences.

What we are concerned about are the problems a person has. While becoming addicted to drugs or alcohol is a major concern in and of itself, the problems which become evident—whether or not addiction is occurring—are also a concern. In this understanding, addiction is viewed as a causal factor for many of the problems we see. However, many of the problems have no relationship whatsoever to addiction.

To push this idea one step further, a third continuum is proposed for consideration. Many drug and alcohol abuse prevention efforts are motivated by the theme of minimizing or avoiding problems. A health or a human potential orientation is also proposed. The essence of this approach is summed up by saying that *the lack of existence of a problem is not evidence of "no problem."* This means that if an individual's performance is thwarted or reduced because of his/her use of drugs or alcohol, then this is a problem which may warrant some action.

A framework which takes the medical model, the continuum of care, and this distinction between use, consequences, and health/potential is the Chemical Health Model. This suggests that we can address alcohol and other drug issues from a comprehensive approach. The foundation of this model is that all three




efforts are essential for a comprehensive program—response, prevention and health promotion. The element of *Response* includes identification of behaviors of concern, intervention, pre-assessment, and ongoing assistance. *Prevention* includes alternative activities, information campaigns, social supports, building resistance skills, and a variety of educational programs. *Health promotion* fills the void left when an individual knows "what not to do so that problems are avoided." This is a positive approach which provides some healthy orientation to prevent drug and alcohol problems as well as to assist in the recovery from treatment for drug and alcohol addiction (Griffin and Svendsen).

## STATE OF SCIENCE

Integral to the research on prevention is the Public Health Model. Most of the current research is upon the host (the individual drinker) and the environment (the immediate drinking context.

> *Two types of prevention research are conducted. Basic prevention research explores factors that influence the risk of developing alcohol use problems. These factors include individual characteristics that may place one at risk, and factors within the environment that may affect risk. Applied prevention research evaluates the effectiveness of purposeful actions taken to reduce problems related to alcohol use. Such actions include measures to modify the drinking environment and measures designed to change individual behavior.* (p.209, Alcohol and Health)

*Basic prevention research* has examined a variety of issues to determine their impact upon individual behaviors. The relationship between the price of alcoholic beverages and alcohol use problems appears to be one of the most promising areas of research. Changes in price seem to affect consumption patterns, rates of heavy drinking, and problems. Advertising and related media portrayals of alcohol also provide some helpful insights. The concern about these portrayals is that they "may compete with and counteract the prevention messages transmitted in public education campaigns" (p. 211, *Alcohol and Health*).

How does advertising affect alcohol consumption? Research does not document a strong relationship between the two; how the advertising stimulates later decisions versus how it directly affects these decisions is not yet identified. Methodological concerns underlie much of the lack of unequivocal conclusions.

Environmental risks, including family, workplace, and drinking establishments, have been examined to determine the ways in which they influence drinking patterns. Individual risk characteristics, including age, gender, and race and ethnicity, have also been studied to determine how they related to alcohol use patterns. For example, young, single men are more likely to develop alcohol problems.

*Applied prevention research* has examined a variety of approaches and determined their impact on alcohol use patterns. One cluster of approaches are those efforts that have been undertaken to change the environment. These include minimum drinking age, changes in availability of alcohol (e.g., zoning, hours, locations), drinking and driving laws, educational sanctions, server training, motor vehicle design, roadway

design, transportation alternatives, and interaction between various approaches.

Since drinking and driving laws and efforts to reduce the negative effects of alcohol- and other drug-affected behavior upon driving have been quite extensive, one of the main thrusts of these efforts deserves to be highlighted. Specifically, many anti-drunk and impaired driving efforts are based on the theme of deterrence. "This model of prevention is based on the assumption that the threat of sanctions such as fines, imprisonment, or license revocation will prevent individuals from engaging in a specific behavior" (p. 219, *Alcohol and Health*, citing Donovan).

"The relatively short-term effects of deterrence programs implemented in France and the United Kingdom also seem to be related to the manner in which the deterrent approach was implemented" (p. 220, *Alcohol and Health*).

The second cluster includes those designed to change individual behaviors. For example, what impact does a change in knowledge or attitude have upon behavior? Many prevention programs are based on the assumption that increases in knowledge are desirable and will automatically result in behavioral changes. In a similar vein, efforts which focus on attitudes are believed to have the same result. While the association is found to be positive, it is quite limited (Bettinghaus, 1986). Among the approaches are school-based efforts and community education approaches.

Thinking back on the overall nature of this section of the background paper, we focus on the "State of Science." When we think of a science, we typically think of principles and standards, and we think of cause and effect. With many human issues, the science of causes and effects is evolving. The drug and alcohol abuse issue has emerged significantly during the past decade. Many attempts have been made to address drug and alcohol issues from a single standpoint or with a single strategy. While multiple causes of use, abuse and addiction are acknowledged, strategies often turn to a single one. Most recently, it is well accepted that efforts to address drug and alcohol abuse issues must be developed from numerous perspectives and involve a wide variety of strategies.

Research on drug and alcohol abuse issues is limited and scattered. As highlighted earlier, much of the attention has been on youth. Further, attention has emphasized addiction as a major area. Recent testimony to the U.S. Congress by the General Accounting Office on drug prevention programs for youth demonstrated the lack of hard evidence regarding these prevention programs. Although more than half the programs examined had been in effect for over four years (which is long enough to have had evaluation implemented), only 3 percent had any completed evaluations.

This same GAO testimony provides insight into promising community drug prevention programs. Again, while the examination was on youth programs, the results are instructive for the adult population. Six features found to be promising for youth enthusiasm and attachment were a comprehensive strategy; an indirect approach towards drug abuse; an approach aimed at empowering youth, with the stress on developing competency skills; participatory activities; a culturally sensitive approach; and highly structured activities. (p. 5)

In a similar way, Bonnie Benard (1991) has identified a series of characteristics of effective prevention programs. These cluster within three general categories: 1) Program comprehensiveness and intensity; 2) Strategies; and 3) Planning. While these are based on youth, they also have some merit for the adult population. The specific principles identified by Benard are summarized in Attachment 1.

These principles link with adult learning theory. When dealing with the adult population, it is critical that the approaches be sensitive to their needs, their individual backgrounds, and their perception of their own level of knowledge. One of the major challenges with adult learning is to mold the strategy into their existing, and relatively fixed, way of looking at issues and the world surrounding them.

Finally, part of the theory of preventing drug and alcohol abuse builds on some basic questions. What are the motivators for use? What are the incentives for non-use? What are the dis-incentives regarding use? What makes some people become addicted to drugs or alcohol, while others do not become addicted? While some of the insights which will help answer these questions are found earlier in this background paper, the response is not clear. Again, one response is not appropriate for all people. We need an understanding that adults behave in a variety of different ways, and in ways that are distinctly different from youth.

## Status of Issue—Past and Present

The issue of prevention of drug and alcohol abuse among adults is emerging as an issue of its own. Many

of the items identified at the outset of this background paper are in the process of being addressed. For example, while we continue to address youth issues, we acknowledge that much more than youth issues need to be addressed. Also, while we acknowledge the need for appropriate treatment alternatives, we know that efforts which address problems and problematic patterns at an earlier time are also important. What appears to be happening is that our societal efforts to address drug and alcohol abuse are moving toward a more realistic acknowledgment of the issues, problems and concerns that exist.

Within this context is a clear message: In order to address drug and alcohol issues, a comprehensive approach is essential. While youth issues are important, adult issues are also important (and, within adult issues, middle age and elderly seem to emerge now as salient periods of concern). We are also moving beyond the orientation found in the first National Drug Control Strategy (1989), wherein alcohol was not identified as a target for our efforts. The inclusion on alcohol is now deemed to be both important and valid.

This author has developed a Multidimensional Framework to assist in looking at drug and alcohol issues. The framework provides a comprehensive, and perhaps overwhelming, way of examining how to address drug and alcohol abuse issues. This may be pictured as a six-dimensional framework. Specific examples of each of the six dimensions of this framework, as seen within a school setting, are provided as an appendix to this document (see Attachment 2). Two cautions are noted: these examples are not all-inclusive—they are illustrative of the particular dimension; the examples are representative of the school setting, and need to be adapted for other settings (the community, an organization, a college, etc.).

The first dimension of this framework is *Institution-Wide*. The importance of this is that multiple offices and personnel within an organization or community need to be involved. It is noteworthy that these offices and personnel may be the ultimate recipient of the efforts, or that they may be an intermediary of activities who would, in turn, reach the ultimate targeted audience. The second dimension is *Comprehensive*. This suggests that a variety of approaches are relevant. The rationale for this is based on learning theory; individuals learn in a variety of different ways. The third dimension is *Broad-based*. This parallels the continuum of care and the medical model identified earlier. Messages must be targeted to an individual's level of use or non-use (e.g., "don't start" messages are not appropriate for a heavy user, and "seek help" messages are not appropriate for non-users or non-problem users).

The fourth aspect of this framework addresses a *Clear Outcome*. This is highlighted to emphasize the ultimate goal of behavior, although the actual effort may be based on intermediate outcomes. Further, attention to the process of the efforts are critical. Fifth, we note a *Multi-Targeted* approach. This emphasizes that individuals may respond to approaches based on some grouping within which they fall and which has meaning for them. The final element of the framework is entitled "*A Sixth Sense.*" This emphasizes the fact that approaches need not focus entirely on drug or alcohol issues. The emphasis is upon paying attention to some of the underlying issues, and viewing alcohol and other drug abuse as a symptom rather than a core issue itself.

Another emerging theme within the professional literature and policy approaches is the focus on the environment.

> *In recent years, a public health approach to prevention has emerged. A key element of this approach is the recognition that reducing alcohol use problems requires strategies that affect the environment as well as individual behavior. Efforts aimed at the prevention of alcohol use problems employ a variety of methods, including public information and education, changes in the social contexts of drinking, and limitations on the availability of alcoholic beverages* (p. 209, Alcohol and Health citing Holder and Stoil, 1988).

> *Surveys are also likely to consider the role of environmental characteristics, such as the visibility of drug use in the neighborhood, in encouraging or discouraging drug use* (p. 32, Drug Abuse and Drug Abuse Research).

Moving beyond this, an emphasis that appears to be emerging is with the interactions between the individual and the environment. This serves as the foundation for many of the popular community-focused interventions.

Underlying the multidimensional approach, the focus on the environment, and the interaction between the individual and the community is the message that the effort to address drug and alcohol abuse is not a simple one. This is a cultural challenge, and one for which there are no quick fixes or simple approaches. It has taken many years for the problems to evolve to their current state, and it will take many years and much effort to move this to a manageable state.

Another perspective found in recent efforts to address drug and alcohol abuse is the difference between "supply approaches" and "demand approaches." Much as in economics, the emphasis with the supply side approaches is upon reducing the supply of the product (illicit drugs or alcohol) that is available to the potential user. This may be done through legality, age laws, time and place standards, availability, and similar criteria. The demand side emphasizes reducing an individual's desire for the drug or alcohol, increasing his/her ability to resist social pressure and perceived expectations. Early efforts to address drug and alcohol issues from a federal perspective included much greater financial support for the supply side approaches.

Another related area worthy of attention is the process of addressing drug and alcohol issues. Some efforts involve individuals whose lives are affected by the decisions. One element of this approach is the theme that individuals are more likely to abide by standards or rules if they had a part in making the decision.

## Marketing

Marketing the prevention of drug and alcohol abuse is a difficult task. One reason for this is that the issues are not clear. Again, what, specifically, are we trying to prevent? Our culture, and many specific sub-cultures within it, do not have a clear idea of what they want to prevent. Framed in a more positive way, they have a limited idea of what they promote.

A second concern is that this marketing is a major challenge within the context of the Multidimensional Framework. This suggests that a variety of different approaches are needed for the variety of individuals. Thus, any marketing strategy determined will need to take all of the various combinations of individual differences and strategies into consideration.

One helpful process that applies to the marketing approach is designed by the National Cancer Institute. This six-stage strategy for health communication includes the following:

**1. Planning the Strategy Selection**—assessing the problem, identifying information needs, clarifying the target audience, specifying goals, planning evaluation strategies, drafting communication strategies.

**2. Selecting Channels and Materials**—identifying existing materials, clarifying appropriate channels for reaching target audience, selected suitable materials formats.

**3. Developing Materials and Pretesting**—presenting the message in different ways, seeing the reaction of the target audience (understanding, recollection, acceptance, value), response of audience to the format, identifying changes.

**4. Implementation**—promotion and distribution of program through all channels, review and revision of program as necessary, examination of process of distribution.

**5. Assessing Effectiveness**—analysis of results of evaluation measures, determining if objectives were met, what caused changes, how well each stage of program was handled.

**6. Feedback to Refine the Program**—identifying why the program worked or did not work, making changes to enhance the likelihood of success, specifying lessons learned to enhance future programs.

Another theme that may be helpful in this area is that of "positioning." This is a marketing principle which is used in a book of the same title. "Positioning is not what you do to a product. Positioning is what you do to the mind of the prospect. That is, you position the product in the mind of the prospect" (p. 2, Reis and Trout).

A final consideration in the area of marketing has to do with a strategy recently implemented regarding drug and alcohol use. The emphasis of this approach is upon low risk decisions. This can blend many of the principles identified earlier in this background paper, including attention to a low risk environment, low risk individuals, and low risk circumstances. The goal would be one of minimizing the chances of injury or the risk of harm; the behavior would be to use drugs or alcohol only in low-risk ways. Ultimately, the impact would be low risk behavior.

## Summary

This background paper has identified a variety of issues that surround the issue of prevention of drug and alcohol abuse among adults. Due to other emphases of our society in dealing with drug and alcohol issues, the topic area of prevention among adults has not been widely addressed. Some ways of looking at the prevention issue were examined, including the causes of problems including addiction, the medical model and the continuum of care, and an expanded view of "what we are trying to prevent" (with the continuum of use, the continuum of problems, and the continuum of health/potential). Some of the recent themes of the

science of prevention were identified, including the basic prevention research and the applied prevention research. A Multidimensional Framework was presented, with an emphasis upon the wide range of differences among individuals in how they respond to drug and alcohol issues. Finally, attention was given to the need to plan an appropriate marketing approach.

Through all of this background, the attempt was made to provide some insights into the nature of the issue. With other topics, more is known and the nature of the field of the issue is more "crisp." With this topic of prevention among adults, more remains unknown than is known. The nature of the field is such that we have a wide variety of principles and themes, but no clear direction. We tend to focus on simple solutions, yet this is an issue which defies simplicity.

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# Attachment 1:
# Characteristics of Effective Prevention Programs

BONNIE BENARD

## Comprehensiveness and Intensity

- Effective prevention programs are comprehensive in that they address multiple systems and use multiple strategies.
- Comprehensiveness also means involving the whole community in prevention efforts.
- Prevention should address all youth and not just those identified as high risk.
- Effective prevention programs are part of a broader, generic prevention effort to promote health and success.
- Intensity means designing programs of duration, with interventions beginning early and continuing through the life stages.
- Effective programs provide sufficient prevention efforts (adequate time per strategy and adequate number of strategies).
- Prevention activities should be integrated into family, classroom, school, and community life.
- Effective prevention programs build a supportive environment that encourages participation by the whole community and fosters a sense of community responsibility.

## Strategies

- Effective prevention programs address knowledge, attitudes and skills as a focused set.
- Prevention efforts should provide alcohol- and other drug- specific knowledge and skills and foster changes in attitudes.
- Effective prevention programs focus on the prevention of tobacco, alcohol and marijuana use.
- Effective prevention programs pay attention to the salience of information and education materials.
- Effective prevention programs provide positive alternatives that serve functions similar to or more highly valued than those served by health-compromising behaviors.
- Effective prevention programs should incorporate the following life skills: communication, problem solving and decisionmaking, critical thinking, general assertiveness, resistance, peer selection, low-risk choice making, self- improvement, stress reduction, and consumer awareness.
- Effective programs are delivered by credible, skilled trainers/implementers.
- Prevention programs should promote clear, firm, consistently and equitable enforced, and carefully communicated alcohol and other drug policies.
- Effectiveness depends on addressing cultural norms pertaining to the use of alcohol.
- Prevention programs should promote school success.
- Effective prevention promotes social and economic changes that create more opportunities for education, employment, recreation, and self-development.

## Planning Process

- Effective programs follow a sound planning process consisting of needs assessment, goal identification, implementation, management, evaluation, and replanning.
- Program planners must collaborate.
- Effective prevention programs have realistic, multiple, and measurable goals.
- Effective programs evaluate effectiveness. Lack of or inadequate evaluation is a frequent criticism of prevention programs.
- Flexibility is necessary for program success.
- Careful marketing enhances program success.

*Cited in Chapter 1, "Characteristics of Effective Prevention Programs" in Parent Training is Prevention.*

# Attachment 2:
# A Multi-Dimensional Framework for Drug/Alcohol Efforts

DAVID S. ANDERSON

## Institution-Wide

Mission Statement/Goals
Planning Committee
AOD Coordinator
Principal
Administration
Academic Departments/Faculty Members
Staff Members
Athletic Department
Student Activities
Guidance
Judicial Office
Security
Student Government
Student Organizations
Health Clinic
Families
Parent Organization
Comunity Services
Media

## Comprehensive

Large-Scale Programming
Small-Scale Programming
Policies and Procedures
Assessment, Evaluation, and Research
Training
Peer Organizations
Curricular Infusion
Community Involvement
Referral and Support

## Broad-Based

Prevention
Intervention
Treatment
On-Going Treatment

## Clear Outcome

Knowledge
Attitudes
Behavior
Process

## Multi-Targeted

Student Sub-Populations

- New Students
- Transfer Students
- First Year Students
- Pre-Graduation
- Males/Females
- People of Color
- Athletes
- Ethnically Diverse
- Gays
- Differently Abled
- COAs

Faculty
Staff
Graduates
Community Members
Community Leaders
Visitors

## A Sixth Sense

Focus on Alcohol or Other Drug Issues

- Accurate Information
- Healthy Attitudes
- Informed Choices
- Personal Decision-Making
- Personal Risk Factors

Focus on Underlying Issues

- Community
- Interpersonal Communications
- Intimacy

# Targeting the Pediatric Age Group For Prevention

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## Abstract

Substance abuse directly affects the health and lives of 18 million Americans. It costs the nation nearly 130 billion dollars annually in health care ($16.5 billion), accidents and loss of productivity (NIAAA, 1990). Fetal alcohol exposure is one of the leading causes of mental retardation. Alcohol-related suicides, homicides and motor vehicle accidents prey upon the lives of our young people, accidents involving motor vehicles being the leading cause of death in the 15-34-year age range.

Although national data for farmworkers and migrants is noticeably lacking, authors suggest an increase in alcohol-related health problems in Blacks and Black migrants (Nace, 1984; Watson et. al. 1985). Hispanics also suffer from a high rate of alcohol and substance use problems (Caetano, 1984, 1986, 1989, Nace 1984). There is evidence that factors which influence heavy drinking in Hispanics apply to migrant farmworkers: acculturation stress, economic hardship, transiency and lack of former structural controls (Arredondo et. al. 1987, Gordon 1981 and others).

The abuse and dependence upon substances by adults affects children in myriad ways. Prenatal teratogenic effects through maternal consumption, the role of substances in domestic violence, physical abuse and neglect; and loss of a structured family life through alcohol-related accidents, death, divorce, or incarceration. Neglect due to addictive disease leads to nutritional deficiencies and lack of compliance with needed medical care. This augments the risk for health problems already increased in the migrant farmworker family (Migrant Health, 1989).

This paper will describe data on minority groups' addiction related health problems, focusing on populations comprising the major streams of farm labor. Local data from county officials and a sample of health problems of our Western Stream farm laborers' children will be compared to national data.

The inter-relationship of health issues secondary to neglect, substance use problems, family discord, and out-of-home placements will be discussed; these factors must be considered in understanding how prevention strategies for children should be developed. In addition to cultural and language barriers, children at risk in our population may have cognitive barriers as well as decreased behavioral controls, and emotional inaccessibility related to a disturbing home environment.

Prevention trends nationally will be reviewed, as well as preliminary outcome studies (Department Education, 1989, updates on Prevention Research 1989 and 1990). Factors influencing poor outcome will be discussed with applicability to migrant children.

Finally, Washington State's interest in prevention and projects targeting Hispanics and children will be highlighted. Making existing prevention projects and treatment programs more accessible and acceptable to Western Stream laborers, as well as more effective, will be a local goal, reaching to make the substance use and related Health Objectives for the year 2000 a reality for farmworker families.

## Introduction and Scope of the Problem

Substance use directly affects the health and lives of 18 million Americans. In 1990, the National Institute on Alcoholism and Alcohol Abuse estimated that 130

billion dollars are spent for health care, accidents, and loss of productivity. In their report to Congress, they projected that 11.3 million Americans would meet criteria for alcohol dependence by 1995, with over 7 million others meeting criteria for alcohol abuse. In 1985, 4.6 million adolescents were found to have experienced alcohol related social problems (arrest, health or job impairment, accidents) (NIAAA,1990, 1985).

Alcohol is the most popular of many drugs which pose a serious risk to the health and well-being of our young. Trends in substance abuse nationwide reflect growing rates of substance use of many types, with availability of the rock form of cocaine and the use of novel "designer drugs" augmenting the already frightening arsenal. Although patterns of use vary, with concentrations in various socioeconomic and geographic groups, no one is immune.

Alcohol is a drug of grave concern because of the status it enjoys as a beverage in the United States, legal for those who have attained adulthood. Thus it seems exempt from the efforts of celebrities and politicians to decrease substance use: In a Weekly Reader survey less than half of fourth graders knew alcohol is a drug (Weekly Reader Publications, 1983). In a country with few symbols to mark life passages, alcohol use is a milestone that signifies adulthood. In combination with sex. parenthood and driving, this initiation into adult status is fraught with danger.

The Centers for Disease Control report that while traffic fatalities involving alcohol have decreased since 1982, 7,000 young people aged 15-24 years died in alcohol-related crashes in 1989. The percentage of fatal accidents involving alcohol is still 54% in this group, 68% in the 18-20 year group, and 77% in the legally drinking 21-24 year group (MOIRE, 1991). Alcohol-related highway deaths are the number one killer of 15-24-year-olds.

Many studies have attempted to define the extent of the problem and age of onset. They vary in methodology and are of necessity based on self-report, so that considerable difficulties with interpretation arise. Nevertheless, a summary will be attempted:

- 1982, National Survey on Drug Abuse—2.7 million 12-17-year-olds have used marijuana in the last month.
- 1983, New York Public Schools (N=27,000)—11% of students grade 7-12 "hooked" on alcohol.
- 1985, PRIDE questionnaire—100,000 10- and 11-year-olds get drunk at least once a week. Weekly alcohol use doubled in sixth graders from 1983-1984.
- 1985, Johnston et al survey—A third of high school seniors say that most of their friends get drunk at least once a week.
- 1985, NIDA's National High School Survey—Two thirds of seniors have used an illicit drug. Seventeen percent—the highest ever—had tried cocaine. Forty-five percent boys, 28% girls had more than five drinks in the past two weeks; 30% of seniors had smoked cigarettes and many were daily smokers.

There is little data on substance use patterns in minorities, and very little on adolescent minorities. Since migrant data is virtually absent, what does exist for minority groups bears mention.

- . 1984, Caetano, 1989; Herd 1988, 1989—The first national survey to focus on Blacks and Hispanics found Whites to be heavier drinkers than Blacks or Hispanics. However, Blacks and Hispanics drank later in life and had more health consequences. Women of all groups have a higher rate of abstention, reaching 50% in Black women and 70% in Hispanic women. There is suspicion that this reflects a different pattern of drinking; Caucasians drink earlier and have more drunk driving episodes; Blacks drink later in life, developing dependence and chronic health problems. Nonetheless, there are greater health consequences to Blacks than Whites at the same level of consumption. Hispanics (consisting of Mexican-Americans, Puerto Ricans, and Cubans) show great contrast between the drinking of Hispanic men and women. Seventy percent of Hispanic women drink little or not at all, 70% of Hispanic men drink. Heavy drinking is highest in the thirties. Mexican-Americans had higher rates of both heavy drinking and abstention than other Hispanic groups. Eighteen percent of men and 6% of women had at least one alcohol-related problem in the year proceeding the survey.
- 1987, Burnam, Hough et al; Haberman—Mexican-American men and, to a lesser extent, Puerto-Rican men are at especially high risk for alcohol abuse and dependence problems.
- 1987, Caetano—Mexican-American women face increasing alcohol problems with increasing acculturation.
- 1987, Rouse—Mexican-Americans have higher marijuana use than other Latinos.

- 1987, Trimble, Padilla and Bell—See narcotic addiction in the Puerto Rican urban communities as an especially severe problem.
- 1987, Welte and Barnes—Little data on consumption by adolescents actually broken down by ethnic group.
- 1988, NIDA Household Survey—Underestimates Hispanic consumption due to sampling problems. Showed low rate of substance use in adolescents. This study has many sampling problems.

In addition to the considerable gaps noted above, the statistics blur regional patterns of use, and allow for dilution of rates by blending low rates for females and higher rates for males. School-based surveys are thought to underestimate drug and alcohol use in Hispanics due to the high dropout rate—a rate 20% higher than other minorities of like socioeconomic status (Austin and Gilbert, 1989).

Despite the lack of group specific research, the evidence for the problem nationally is clear. There is justification for using the data that exists as a starting point: Substance abuse and related problems are high in the migrant population and the children face considerable health risks as a result. This paper will address what those health risks are, and what barriers must be surmounted in order to decrease those risks. The role of acculturation stress, economic hardship, transiency, and barriers to care will be discussed (Arrendondo, et al 1987; Gordon 1981; and others).

Prevention has many facets. Prevention of early use starts with prenatal intervention to decrease exposure to teratogens, such as alcohol. Health neglect and lack of compliance with needed medical care is rampant in the migrant population, and more so when mind altering substances are a financial priority which blinds individuals to negative consequences. Substance misuse plays a role in the domestic violence that can make a migrant child truly homeless. The prevention of substance use would decrease accidental deaths, suicides, homicides, and the breakup of homes caused by child abuse and neglect. Prevention of prenatal exposure to alcohol would prevent the greatest cause of mental retardation, and would enhance the ability of migrant children to learn and adapt. Adequate care, early identification of family substance use problems, and early childhood identification of emotional and cognitive barriers to adaptation will lower subsequent risk and make actual prevention programs more effective.

## Health Status of Migrant Children

Children make up 25% of the farm labor force. Most, but not all are subject to the stresses of frequent moves, inadequate housing, disruption in their education, and economic instability that afflict migrant farm families. The average income for a family in 1989 was approximately $5,000, and there are no health care benefits. Few can qualify for public assistance, unemployment or other augmentation. Many health risks are compounded by economic hardship and unsafe living conditions (Migrant Health, 1989).

Prenatal risks include pesticide exposure *in utero*, with some studies indicating that chemical exposure increases the risk for cancer (Gold, et al, 1979; Hemminki et al, 1981), limb defects, (Schwartz, et al, 1980), prematurity, low birth weight, decreased vigor at five minutes post birth (APGAR scores), suspected neurologic dysfunction at one year and low IQ at four years (Hunt and Harkness, 1980).

Non-chemical risks include increased exposure to infectious disease, which also causes fetal loss and low birth weight (Wilk, 1986). Typhoid, typhus and tuberculosis can cause central nervous system defects, fetal disease, and miscarriage (Hunt, 1975). Mothers working in fields during pregnancy risk damage to themselves and to their offspring through slips and falls. Lack of sanitation facilities in the fields leads to urinary retention and increased urinary tract infections. This promotes perinatal death and prematurity (Wilk, 1986).

Work-related risk factors combine with environmental and personal hazards such as poor nutrition, smoking and alcohol consumption. Over 30% of the women have no prenatal care, and many have significant Vitamin A deficiency and anemia. Sexually transmitted diseases including HIV are added risks, with some suggesting a higher risk than the general population (NMRP, 1990). Some studies have shown a current rate of fetal loss of 80 per 1,000, so there is clearly reason to address all possible contributing risk factors (Wilk,1986).

Farmworker children have increased risks for pesticide exposure after birth. If they go to the field, they risk direct contact. If they stay home, they may handle clothes saturated in pesticides or touch contaminated hands or bottles. They are at risk for contagious diseases prevalent in work camps, such as meningitis, hepatitis, and a multitude of parasites which cause anemia and exacerbate malnutrition (Wilk, 1986). Chase et al. evaluated Mexican-American preschoolers

in Colorado in 1969 and found children to be under-immunized or unimmunized (50%) and at less than fifth percentile for height and weight (20%), with a surprising number exhibiting significant Vitamin A deficiency. Twenty percent had hemoglobin or hematocrit values below tenth percentile for age (Chase, 1971). McCracken re-studied the group in 1975 and found little improvement (McCracken, 1979). An American Friends Service Committee report on children in the state of Washington showed higher rate of respiratory diseases and strep throat, with high rates of viral illness and parasitic disease in both farmworker and non-farmworker 4-12-year-olds.

Periodontal disease and dental caries have been cited by migrant clinicians as the most prevalent farmworker health problem. Poor health and lifestyle factors combine to make this a significant problem for children. Kaufman, in the 1973 study of Florida workers, found one third of children under six and nearly 75% of children over six to have periodontal disease (Kaufman et al, 1973). Their study had two thirds Black and one third Hispanic participants.

Koday et al studied dental decay among children of migrant workers in Yakima County in Central Washington, and found rates of dental caries and baby bottle tooth decay over twice that of the general population (Koday, 1990 and Koday, 1990, unpublished).

Another area of health concern is the rate of unintentional injuries for farmworker children. Although mortality data on adults is readily available (mortality rate of 52/100,000) there is little on the rate of agriculture related injuries in children. Data from the Migrant Student Record Transfer System show that over a two-year period, 71% of deaths among migrant children were due to accidents (Education Commission of the States, 1979). Although only three percent were farm accidents *per se*, the 44% that were automobile accidents need to be seen in light of factors which increase risk for motor vehicle fatalities in families of farm laborers: long distance driving and long working hours (Wilk 1986, Migrant Health 1989).

The Migrant and Seasonal Farmworker Health Objectives have targeted reducing unintentional injuries, reducing death and bodily injury due to drunk driving, reducing occupationally related fatalities, and reducing suicide rates. Data from Yakima county shows the need for application of these objectives to children:

1. Sixteen percent of pediatric deaths occurred prior to one year of age. Forty-four percent of deaths were accidents, usually drownings, and almost forty percent were motor vehicle fatalities.
2. The highest risk group for premature death was the 16-18-year age group (46%), and many of these were motor vehicle fatalities.
3. Drownings accounted for 10% of deaths, with 30% occurring in agriculture related canals or irrigation canals. No drownings occurred in pools in this study from 1984-1988 county death records (Foote and Monahan, 1989, unpublished).
4. Four non-drowning deaths were related to farm labor, and all were preventable: organophosphate poisoning of a toddler, pre-sunrise collision of car and young asparagus worker, crush fatality from a hops truck, and crush injury from a tractor roll.
5. The information about alcohol involvement is incomplete, with 12% of victims having evidence of alcohol intake. No information was available about alcohol intake. No information was available about alcohol levels of other drivers in motor vehicle fatalities. This would be especially useful, since 40% of deaths ages 0-4 were due to pedestrian auto accidents and one third of these were in a driveway! Suicide was the leading cause of death in Hispanic children in Yakima county from 1984-1988, at a rate two and a half times the national average. Hispanic data best reflect the migrant population in this central Washington town, which receives laborers from the western migrant stream originating in Mexico, Texas, and the Southwest.

HIV infection is of concern, with data indicating an increase in disadvantaged groups disproportionate to the general population. The data for Hispanics is alarming, and may have implications for migrant workers. The Hispanic Family Against Drug Abuse relates the AIDS and substance use problem in Hispanics:

1. NIDA, 1983—Hispanics 2.7 times more likely to be treated for drug abuse related problem than Caucasians.
2. Cocaine-related deaths increasing in Hispanics.
3. New York Police department reports 42% of drug involved homicide victims have been Hispanic.
4. AIDS task force reports that 43% of AIDS cases in Hispanics involve intravenous drug use. Ninety percent of pediatrics AIDS cases involve maternal transmission from a drug abusing mother.
5. Hispanics account for greater numbers of new AIDS cases than expected. NDIA noted that the "problem of speedballing (the intravenous com-

bination of heroin and cocaine) predominates among minorities, with Blacks and Puerto Ricans accounting for 76% of all speedballing admissions." Inhalants are a serious problem for minorities as well.

6. The Spanish Family Guidance Center in Miami, Florida estimates that 500,000 Hispanic youth may be lost yearly to substance abuse and resulting school drop-outs.

A migrant population, with numerous barriers to educational attainment and acquisition of preventive health skills, would seem to require even more attention in order to prevent escalation of substance-related AIDS, endocarditis, and Hepatitis B infection.

Substance abuse adversely affects pregnancy outcome in various ways. Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Effects (FAE) are critical public health problems, costing the public an estimated third of a billion dollars per year (Abel and Sokol, 1987). FAS is the leading cause of mental retardation in the western world, affecting 2 per 1,000 live births. Disabilities range from profound retardation to problems with learning, attention, speech, coordination, and behavior. Smith et al in 1987 used prenatal interviews to delineate what puts a pregnant woman at risk to continue drinking. Ethnic and demographic variables did not differentiate. Here is where prevention and treatment most meaningfully unite, because the predictors of continued drinking were length of drinking history, reported tolerance to alcohol and history of alcohol-related illness. Alcohol use increases the rate of intrauterine growth retardation, as well as craniofacial and neurobehavioral disorders (Coles, et al, 1985). Other substances have been shown to affect pregnancy outcome and cause acute and chronic stress to the infant.

Substance use contributes to health impairment in farmworker children by contributing to neglect health care and nutritional and educational needs. Many of the behaviorally disordered children in our migrant/community mental health program have been directly impacted by this feature of substance abuse. There is also a high rate of post traumatic stress symptoms due to physical and sexual abuse and neglect. This is based on a 1991 open chart review, and therefore anecdotal, but 50% of children in our mental health program had at least one substance abusing parent reported intake (Henderson, 1991, unpublished).

The Migrant Health Objective for violent and abusive behavior acknowledges the interplay of violence and substance abuse in migrant families, and calls for a reduction in alcohol abuse by teenagers. The need for better assessment of this relationship by human services departments and clinics is clear (NMRP, 1990).

The New York State Central Register maintains data on cases of maltreatment of children. Alvarez et al was able to correlate data with the Migrant Student Records Transfer System, and found that migrant children were at six times the risk for maltreatment than other children in the state. This was almost doubled among families led by single parents. This suggests that the migrant lifestyle places children at risk (Migrant Health, 1989). This risk is compounded by substances affecting control of angry impulses and needed reasoning powers.

## Implications for Substance Abuse Prevention

The challenge of substance abuse prevention in migrant children arises in part from their poor access to health care, their educational experience, and differences in socialization. Existing prevention programs, even if readily available, may not work. Prevention efforts will need to address the circumstances that put migrant children at especially high risk. Poverty, bigotry, and disadvantage due to language barriers and mobility alienate these children and deprive them of normal sources of gratification, thereby increasing the risk that association with drug using peers will become attractive.

Nevertheless, the experience of prevention efforts nationwide has bearing and will be briefly summarized, followed by an overview of prevention efforts that target minorities, particularly Hispanics. Local prevention strategies will be described.

There have been prevention programs in school curricula since the mid-1970s. The most basic model is the health class information pattern in which information about health consequences is used to frighten or show the child the undesirable consequences of substance use—arriving too late and usually failing to address alcohol. Driver's Education curricula may provide information about drinking and driving, with or without gory re-enactments of fatal alcohol-related car crashes. The past 10 years have seen a dramatic increase in the numbers and kinds of prevention techniques used. Many of them utilize social skills training to help children say "no." This is apparently based on an assumption that one is lead into temptation by strong persuasive peers. This assumption has not been

evaluated critically, but programs which offer this alone or in combination with self-esteem building (based on another assumption), while good at teaching the skill and imparting the targeted knowledge, have shown very limited success (U.S. Department of Education, 1988). Programs which involve law enforcement joining hands with educators to role model and influence younger children have also shown modest success.

Schools that have severe problems with the use and sale of drugs on school grounds have taken impressive steps to alleviate the problem. The United States Department of Education describes these in "Schools Without Drugs." The schools with the best success fostered peer support groups, involved the parents in drug abuse education, and differentiated between sale and use. A vital finding was that no matter how early the education was offered, if the parents were not involved there was no improvement. School based prevention programs are less likely to be effective with migrant children unless started very young—just as the education is disrupted with frequent moves, so would any educational, skill building, self-esteem building, norm challenging or peer supporting curriculum to prevent substance use. Beyond ages 10-12, when children are included for working in the fields of strawberries, potatoes and asparagus (crops which have Department of Labor age requirement waivers), there is even less likelihood of reaching the farmworker child.

Prevention projects and policies for Latino youth are rare (Arnes and Mora, 1989; Bernstein and Wallerstein, 1988, Humm-Delgado and Delgado, 1983, Santisteban and Szapocznik, 1982). Effectiveness of the few programs that exist has not been studied systematically (Austin and Gilbert, 1989).

One program studied is Identity Development and Education for Adolescents (IDEA), a Harlem-based prevention project for 12-17-year-olds. Interviews indicated change in alcohol knowledge, attitudes and behavior in consistent participants (Zambrana, Aguirre-Molina, 1987). The Alcohol & Substance Abuse Prevention (ASAP) program in New Mexico measured change in attitude, but failed to provide indication of behavior change (Bernstein and Wallerstein, 1988).

Programs, while poorly researched, do exist (Austin and Gilbert, 1989). Hermanos in Los Angeles is an adolescent prevention project. Fenix Family Alcoholism Services has the Pajaritos Projects, a program for 13-17-year-olds. These programs try to reinforce strong family values and strengthen family bonds. Los Niños in San Antonio, Texas works with Preadolescents 4-11 and with the key people in children's lives (Austin and Gilbert, 1989).

Black prevention projects exist, but relevance for the migrant Black populations uncertain (Beaulieu and Johnson, 1988). One study identified Black migrants to be at high risk, especially single older men (Watson et al, 1985).

Several studies show the need for family and community involvement in substance abuse prevention efforts. This is especially true of Hispanic families. Cultural values of pride and respect, honor and dignity can be called upon to set precedents or norms for abstinence or moderate drinking. This can occur only if there is an absence of substance abuse and dependence in the role model, and when intergenerational ties are stronger than intergenerational conflicts. Nace found that factors associated with low risk of substance use problems include church attendance, associating with non-drinking peers and infrequent parental drinking (Nace, 1984). This reinforces the findings that family role modeling and strength is vital. Several authors have described family conflict as a risk factor for substance use. Szapocznik has described "differential acculturation" as a stress which increases integenerational conflict and leads to acting out behavior in Hispanic youth. In several studies funded by the DAMHA he and others have attempted to apply modified structural family therapy techniques to decrease substance use. By focusing on differences in the degree to which the parents and children have been exposed to and have adapted to the dominant culture, he is able to diffuse much of the conflict and rebuild family ties. The effect on substance use has been significant (Szapocznik, et al, 1989, 1990). Resources which may benefit the migrant child are the few centers which have attempted to offer a bi-cultural approach to counseling, substance abuse treatment, and prevention. These resources recognize the need to involve community leaders, parents and churches to provide clear messages against substance abuse, effective role modeling, and viable alternatives. The National Hispanic Family Against Drug Abuse has made recommendations in this vein to the DAMHA which may have bearing on prevention planning for migrant children. They recommend the use of media to develop community networks, to stimulate families and leaders to focus on and own the problem. Media images which are relevant to Hispanics may include co-ethnic celebrities, messages which relate to cultural heritage and experience. One popular tool for reaching Hispanic audiences is the *fotonovela*, a frame-by-frame story format using photographs or comic images.

They also suggest bilingual booklets for parents of young children, market research to guide media campaigns following the lead of alcohol and tobacco industries, and local campaigns that target children in high risk groups separately.

Further recommendations bear mention:

1. Developing demonstration models for family involvement which attempt to connect parents, teachers and other community members by rotating hosts for education and training programs and activities.

2. Open communications between schools, parents and law enforcement that allow consistent messages to be given to young people about alcohol and drugs, and monitor effectiveness of prevention programs.

3. Including AIDS education and prevention as well as substance abuse prevention as early as third grade.

4. Projects which use community based education, recreation or vocation based forums to introduce prevention concepts.

5. Projects for high-risk families. This may involve treating parents who have substance abuse problems.

6. Phone services for information and crisis (some bilingual).

7. Targeting the special needs of high risk youth along the border (and along major drug traffic routes).

Prevention efforts need to address high risk contributing factors. Dropping out of school is itself both a risk factor (possibly related to learning difficulties and school maladjustment) and a direct result of substance use. In the migrant population, where high school completion may be as low as 30%, the need for change is clear.

## Local Prevention Strategies

Washington State began its prevention programming in 1983, and spends 20% of its federal alcohol and drug abuse grant on prevention/early intervention. The initial strategies included working with the Governor's Office on Community Development and the Superintendent of Public Instruction in developing and testing prevention program models, including a merged drug and alcohol curriculum with student assistance programs to supplement. There is an annual statewide conference for community teams that focus on local community action. There has been fostering of information and referral systems through cooperative efforts of treatment agencies and local school districts. In addition, the Bureau of Alcohol and Substance Abuse (BASA) has provided technical assistance and training to county prevention personnel and community groups. The bureau has also encouraged treatment services for youth as part of the county grant-in-aid program. A media campaign has been developed in King county (Seattle), the state's largest metropolitan area. Special media focus has been on 8–12-year-olds using sports interests to engage youngsters. They have developed a handbook for community coalition development and maintenance. There has also been coordination with the Traffic Safety Commission to promote drug and alcohol free events for youth. There is a statewide steering committee involving state agencies, media and communities.

This year, in response to the growing Hispanic population (1990 census reports 188,000) and awareness of a growing drug and drug trafficking problem, monies were allocated for two important projects still in formative stages. One is a treatment facility for Hispanics, which will include adolescent beds. It will be developed by our migrant health center, and every effort is being made to insure that staff are chosen who are bilingual, entrenched in the culture and the community, and committed to reaching the underserved. The second is an initiative to facilitate prevention efforts in the Hispanic community. This will directly impact the migrant population, and is being administered by the Washington State Migrant Council, the agency that directs the Migrant Head Start projects.

The intent of the second project, called the "Hispanic Initiative," is to foster community ownership of the problem, searching for solutions at the community level. Its goal is to bring parents and community leaders together with existing programs to assess and own the problem and develop strategies to solve the substance abuse problem. Our migrant center hopes to work with the initiative and treatment center in the following ways:

1. As a migrant health center fortunate to have a community mental health component, expertise is available to offer support to family members of individuals in treatment, assess and treat individuals with "dual diagnosis" problems, and treat families with cultural and intergenerational conflicts that may set the stage for later substance abuse.

2. In coordination with Hispanic radio stations and organizations involved in fotonovelas and other media efforts, assist in finding prevention strategies that work and help to ensure accessibility of these materials to the migrant population.

3. Provide a continuum between prevention and treatment services, and link them to education counseling and family counseling services.

Even if these hopes are achieved, there is still much to be done in adapting the prevention efforts and making them available to migrant children. Of the fourteen prevention specialists in the state, one is bilingual. Most available programs are school based, although there are two that have Youth Community Centers. Whether migrant children have access to these centers or not is unknown. There is one identified Hispanic Drug Prevention Project organized by a western Washington community. They feature recreational, cultural and educational activities that show the Hispanic individual how to use the spiritual values inherent in the culture to make drugs and alcohol unnecessary. There is no data on the use of their services by the migrant Hispanic group. The Washington State Substance Coalition has offered assistance to communities in forming their own groups to study the problem and organize to offer solutions. They have encouraged the formation of youth coalitions to encourage youth to own the problem and support each other moving toward solutions (see Attachment 1).

## RECOMMENDATIONS

1. Although the substance abuse problems in low socioeconomic clusters seem readily apparent, studies have failed to show an association between poverty and substance use. The multiple factors associated with the milieu would need to be tested in a causal mode on large samples of Hispanic youth in order to identify the environmental or class differences that exert major influence on substance use patterns (Austin and Gilbert, 1989).

2. Evaluation of the influence of cultural norms and their interaction with the acculturation process needed to be better understood. Acculturation may increase the risk for drinking in Hispanic females who adopt U.S. values, and Hispanic men may drink more frequently and adopt a frequency similar to U.S. men. Stereotypic reinforcers of heavy drinking such as machismo, personalismo, carnalismo (which translate to male role attributes, emphasis on interpersonal power rather than accomplishments, and ethnic unity, respectively) need to be examined cross culturally with well defined measures before conclusions about their role can be made (Austin and Gilbert).

3. Studies that show stress resulting from cultural conflicts and the association with adolescent substance abuse need further review. The association between stress and substance abuse is not clear.

4. To prove that systematic differences across Hispanic sub-groups do exist, large communities must be sampled to avoid the pitfalls of non-generalizable data such as school based surveys. Variation may result from differences in age, locale, or other unexamined variables.

5. Prevention programs directed to Latino youth should be evaluated; project descriptions and curricula should be published (Austin and Gilbert).

6. Prevention efforts must start early (NHFADA and others); be home, church and community based; and address the individual in his or her cultural context.

7. Efforts to change an environment of poverty and deprivation are essential (Morales, 1984).

8. Prevention efforts for migrants may need to be group or region specific. One study suggests that prevention for Blacks should start with cigarette smoking, while Whites and Hispanics need to be cautioned against all drugs (Maddahian, Necomb and Bentler, 1986) while one showed evidence of drug switching as a result (Padilla, Padilla et al, 1977).

9. Prevention efforts probably need to be gender specific, as contributing factors differ, as do patterns of use (Gilbert, 1989).

10. The strength of deviant peer clusters is a force with which to reckon. Peer counselors or others that espouse traditional values will be spurned. Family and peer based interventions should begin before these associations are forged (Oetting, Beauvais, Edwards, 1988).

11. Programs need to support family strength, and involve families in prevention efforts. Szapocznik advised evaluation of the powerful influences in migrant groups beyond the nuclear family (personal communication, 1991), and recommended

engagement of parents as the first step in prevention efforts.

12. High risk youth, already deviant, will not relate to socially acceptable role models. Where socioeconomic inducements reinforce deviance, drug sale and use will abound. As our migrant population is at extreme risk, alternatives have to be found (Oetting, Beauvais, Edwards, 1988 and others).

13. Better data on parental behavior and coping styles might help refine prevention efforts. Family involvement in prevention may ultimately reduce parental drug use (Austin and Gilbert, 1989).

## Recommendations for Migrant Health Centers

1. Clinicians need to have a high index of suspicion for substance use problems in youth and their parents.

   a. Screening inquiries, such as the "CAGE" format, should be encouraged.

   b. A knowledge of local resources, support groups and counseling centers would be helpful. (The National Hispanic Family recommends a yellow pages of language appropriate services.)

   c. Physical signs of alcohol or drug impairment can be a strong motivator for treatment.

2. AIDS prevention and treatment programs can impact substance abuse problems through information and referral. Don't assume treatment for HIV positive individuals is of no avail, many become abstinent and can have a powerful impact on peers.

3. It has been questioned whether migrant health centers really see the migrant workers they were established for. Noticias de Education Migrante (Junio 1991) states that there are 3-5 million farmworkers. They report that 125 centers are serving only 500,000 farmworkers. Addressing identified barriers to care (Slesinger, 1979) might pave the way for improving access to prevention efforts as well.

4. Opportunities exist to expand the scope of influence nationally by developing demonstration projects and locally through ties with community leaders. Hosting drug and alcohol free recreational events can help to influence values.

5. Efforts should be made to have access to translated prevention materials and to cooperate with local media drives.

6. Sponsorship of youth coalitions, student and recovery group meetings—through use of meeting rooms, contributions where appropriate and non-judgmental support.

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Wilk VA: The Occupational Health of Migrant and Seasonal Farmworkers in the United States Progress Report: Washington D.C., Farmworker Justice Fund, Inc. 1988.

# ATTACHMENT 1:
# ANNOTATED BIBLIOGRAPHY FOR PEDIATRIC LIFE CYCLE RESOURCE DEVELOPMENT, EDUCATION AND ADVOCACY

Austin GA, Gilbert MJ: Substance Abuse Among Latino Youth. Prevention Research Update, 3(Spring), 1989.

This article is an exhaustive review of the prevention research on Latino youth. Because Latinos are one of the youngest, and most rapidly growing ethnic group; substance abuse problems seem to be higher, and consequences more severe, these authors feel special attention is necessary.

Research problems include the diversity of the three major subgroups (Puerto Rican, Mexican, Cuban), and the differences in patterns of use/abuse, marked gender differences, and failure of school-based surveys to reach many Latinos because of the high dropout rate.

Prevalence and patterns of use show Mexican-American men at especially high risk for alcohol abuse, while the women, particularly the less acculturated ones have a high rate of abstinence. Illicit drug use overall does not seem to be increased as is commonly believed, but there is evidence for more drug related problems requiring treatment. Subgroups vary in arrest, overdose, and choice of drug. Heavy alcohol use in Mexican-American adolescent males is high, with acculturated adolescent girls in a few areas at nearly as high risk.

Mexican-Americans studied mostly in California or the Southwest show onset of drinking by ninth grade, with other statistics showing males in the group thrice times more likely to have drunk by age nine. Anglos in these samples did not look much better, with one report showing higher rates in caucasians.

Puerto Ricans were studied mostly in the Northeast, and while they showed later age of first use and lower prevalence, these samples were affected by the school dropout rates. All in all, Latino youngsters of each group tended to have greater problems when they drank.

Drug use studies have similar problems, with school-based studies underrepresenting those more likely to suffer from substance use problems. This is also noted in surveys about drug use.

The 1985 NIDA Household Survey reported whites to have the highest incidence of drug use, with Latinos second and blacks last. However, heroin and cocaine uses were higher in Latinos, and subsequently more drug related problems than for the other groups.

HHANES National Household Survey (NIDA, 1987) looked at Latino subgroups without an anglo comparison group and showed more cocaine use in Mexican-Americans and Puerto Ricans. Heroin was not examined. California student surveys show lowest use in Asians with Latinos second lowest for all drugs, including alcohol. Neither ethnicity or social class was tied to drug use. However, other researchers found high levels of use of marijuana, inhalant and PCP use in the barrios.

The Texas Surveys showed much higher use than Latinos in the National Seniors survey, either because of the dropout factor, or an alarming regional pattern of use, or both. Gender differences for drugs is more pronounced than for alcohol.

Cocaine use is higher in older Latinos, and higher in Puerto Ricans. Heroin use, overlooked in the HHANES and National Household Survey (1988), seems to be a special Latino problem, associated with gangs, high addiction rate, and criminality.

Inhalants appear to be prevalent in isolated communities, especially disadvantaged ones. It is a problem for Native Americans and Mexican-Americans.

Marijuana appears to be used more by whites, then Latinos, then other groups. Latinos have a higher rate of multiple substance use. Use of all substances in Latinos correlates with the acting out prevalent in all adolescent groups, with cultural and structural factors increasing the risk of Latinos.

Environmental factors such as poverty do contribute, but in a complex way. A causal model which can be tested to shed light on specific factors in the poverty milieu is necessary to be able to influence the abuse patterns.

A positive, trusting relationship with parents, especially fathers, lack of family discord due to differences in acculturation with attendant value differences increase resistance to drug use.

Latinos and anglos show a vulnerability to peer influence. Latino boys, and girls to a lesser extent respond to parental drinking with increased alcohol use in several studies.

Gender issues are explored, and the role of acculturation as a risk factor, especially for girls, as the U.S. culture is more permissive in regards to female alcohol use. Mexican-American males come to the U.S. with a heavy but occasional pattern of alcohol use. Developing the U.S. pattern of regularity combines for increased problems in this group.

Cultural values are speculated to be of import—these need further study cross-culturally to validate assertions. Poverty subculture and specific history of drug use are compounding factors. Similarly, large community-based samples of Latino subgroups need to be surveyed to determine that cultural differences across Latino subgroups actually exist.

The section on prevention cries for the systematic study of programs tailored specifically to the Latino cultural and environmental need, and describes the one program in the literature, and a few that have been piloted but not written about. These include Identity Development and Education for Adolescents (IDEA), Alcohol and Substance Abuse Prevention (ASAP) program in New Mexico, Los Pajaritos Project in California, and Hermanos in Los Angeles. Los Ninos in San Antonio, Texas works with children aged 4-11 years and with the key others in these children's lives. Issues include the high dropout rate, poverty, adaptation of prevention materials to bilingual and bicultural audiences, and focus on particular subgroups. Some factors affect focus—intention to use being weaker for Hispanics than for other groups. Different drugs may need to be emphasized, but how to do this is not clear, as one study showed that focus on inhalant abuse had a substitution effect.

Gender specific approaches are likely to be needed. Peer group changes and participation of the family to provide positive role modeling will be helpful. The role of stress and the need for youth to develop skills to cope with biculturality must be considered. Intervention can encourage youth to apply their cultural heritage and skills to prevent substance use. Natural support systems such as extended family and religious groups should be used. Dealing with the family conflict may be the most effective prevention, especially when parental drug use is absent or decreased as the result of the intervention.

Blondell, B, et al (1987). Schools Without Drugs: What Works. WA, D.C.: US GPO

This United States Department of Education Monograph reviews the education based efforts and opportunities in the arena of substance use prevention. It describes the relationship of drug use and problems in children and the impact on learning. If children are to value and maintain sound personal health, efforts to deter from substance use are imperative. Yet the problem nationally seems to be growing. One sixth of all children have tried pot by 13 years of age, according to the NIDA Household Survey. Concentration of the drug in marijuana have increased through refined growing techniques, so that common concentrations are 200-300% higher than that needed to cause impairment. Other statistics are cited with the conclusion that education can not achieve it's goal, nor can the goal of personal health and wellness be achieved if this trend is not reversed.

The booklet describes how drug use begins, and what factors are associated with high risk. The role of parents, students and communities are then discussed. Interspersed with discussion on the roles, such as instilling responsibility and providing supervision, fact sheets tell parents and educators what to look for to detect drug use and how to handle legal questions involved in school-based intervention.

The book challenges schools to honestly assess the problem and to set and enforce policies which break up antisocial drug groups and encourage parent participation. The authors cite examples of dangerous inner city schools that have been turned around by such efforts as expelling those who sell, requiring those caught using to attend drug education programs with their parents. This parental involvement seems crucial to the outcome described.

The recommendations made as a result of careful review are so useful as to bear specific mention:

For Parents:

1. Teach standards of right and wrong and demonstrate these standards through personal example.

2. Help children to resist peer pressure to use drugs by supervising their activities, knowing who their friends are, and talking with them about their interests and problems.

3. Be knowledgeable about drugs and signs of drug use. When symptoms are observed, respond promptly.

For Schools:

1. Determine the extent and character of drug use and establish a means of monitoring that use regularly.

2. Establish clear and specific rules regarding drug use that include strong corrective actions.

3. Enforce established policies against drug use fairly and consistently. Implement security measures to eliminate drugs on school premises and at school functions.

4. Implement a comprehensive drug prevention curriculum from kindergarten through grade 12, teaching that drug use is wrong and harmful, and supporting and strengthening resistance to drugs.

5. Reach out to the community for support and assistance in making the school's anti-drug policy and program work. Develop collaborative arrangements in which school personnel, parents, school boards, law enforcement officers, treatment organizations, and private groups can work together to provide necessary resources.

Students are urged to:

1. Learn about the effects of drug use, the reasons why drugs are harmful, and the ways to resist pressures to try drugs.

2. Use an understanding of the danger posed by drugs to help other students avoid them. Encourage other students to resist drugs, persuade those using drugs to seek help, and report those selling drugs to parents and the school principal.

Communities can:

1. Help schools fight drugs by providing them with the expertise and financial resources of community groups and agencies.

2. Involve local law enforcement agencies in all aspects of drug prevention: assessment, enforcement, and education. The police and courts should have well-established and mutually supportive relationships with the schools.

The final section deals with sample topics and learning activities for teachers to use in drug prevention curricula. The role of nutrition, effects of poisons, nature of habits and stress are discussed in a way that young students can understand. Objectives of personal health and respect for laws and rules are discussed. For young children, color books to color items that are safe to eat, for older students, specific discussion about chemical properties and mental and emotional effects are more pertinent.

Resources are described with toll-free numbers useful to any of us:

1-800-554-KIDS The National Federation of Parents for Drug-Free Youth (NFP).

1-800-241-9746 PRIDE (Parents' Resource Institute for Drug Education) Drug Information Line.

1-800-638-2045 National Institute on Drug Abuse (NIDA), US Department of Health and Human Services. Provides technical assistance to drug prevention programs, and establishment of "Just Say No" clubs.

1-800-662-HELP NIDA Hotline. Referral to treatment centers, information on drug abuse.

1-800-COCAINE Information and referral service that uses reformed addict counselors.

For a copy of the handbook, the Department of Education requests a call to 800-624-0100.

Austin, Gregory A: Prevention Goals, Methods, and Outcomes. Prevention Research Update, 1: (Fall), 1988.

This paper is an overview of prevention research which is further cited in subsequent abstracts. This research shows that the social influence approach "just say no" has limited effectiveness by itself, especially with alcohol. Furthermore,

prevention attempts in junior high arrive too late. Models for tobacco or drug prevention seem to work poorly for alcohol. School-based prevention is not criticized, but the author stresses that data shows the need for broader, community action.

The author reviews 12 articles, and groups them into those that study the curricula of school-based programs, the correlates and consequences of adolescent drug use, and finally two surveys of attitude and perceptions.

The efforts at information dissemination were viewed inadequate and abandoned by the late 1970s, giving rise to programs that promote abstinence and the resistance of peer pressure. Denise Kandel"s research showed peer influences to be a powerful determinant. These programs offer social inoculation, social skills, skills for coping and decision making. The results have been mixed, but positive results were discovered with stiffer school policies and enforcement.

Target populations are discussed, with the observation that primary prevention has discouraged all drug use in adolescence as being undesirable. The view that some drugs provide a gateway for others is a motivating assumption, as is the belief that reducing risk among users is more difficult. However, others stress that the experimenter is statistically in a different class than heavy users, so a reasonable goal would be to prevent experimentation from becoming regular use or abuse. These researchers fear that programs focusing on prevention may fail to engage those already using and therefore most at risk.

The tie between school problems and drug use shows that heavier involvement in marijuana is associated with truancy and school failure. One high risk factor described is a character vulnerability, evident in the preschool years, which might have implications for more specific targeting of interventions. It is likely that different strategies are needed for different risk groups.

The related issue of targeting drug abuse alone versus looking at associated behaviors is then discussed. Some theorists see drug use as one of a wide range of behavior problems in adolescents. This suggests that prevention efforts need to address the underlying motivations for all these behaviors. One study, the Here's Looking at you curriculum that attempted broad personality reconstruction did not affect use patterns and stress that such changes are very difficult to achieve. Others note that changing social skills doesn't change drug use. Still, there is evidence that combining information, decision-making and problem solving could have some effect. The author notes that this study by Beaulieu and Jason is one of very few attempted with black students.

In looking at target substances, it was noted that certain drugs did have more negative outcomes, fuelling the debate about drug-specific or gateway types of approaches. The specific beliefs and norms preceding drug use may need to be understood and addressed. Alcohol education seems to present special difficulties, and no alcohol prevention programs have been encouraging. The Tobacco and Alcohol Prevention Program (TAPP) was shown to be effective for Tobacco, but not for alcohol. Peer pressure may have even less to do with alcohol use, although one study found that students in peer-led living skills programs were less likely to smoke marijuana, and drank less per drinking incident.

Peer pressure is already present by the seventh grade, so that alcohol prevention needs to start much earlier. Prevention efforts might be more favorable if the social atmosphere favored abstinence. Early intervention is an emergent theme. Block and Keyes describe changing early behavior likely to put a youngster at risk; others cite even earlier attempts at school-based prevention. This is even more reasonable given the association of early age of onset of use, and severity of complications.

In summary, then, the prevention field needs better research and program design, and more of both. Early intervention is needed, especially for those with high risk traits; as is an awareness of the complexity of underlying motivations and external pressures. A "one-size-fits-all" program is not likely to be found. Additionally, alcohol prevention efforts must address the way societal acceptance is interpreted by children at risk.

# The Status of Evaluation and Research Efforts for the Adult Life Cycle

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## Introduction

In 1980, *Promoting Health/Preventing Disease: Objectives for the Nation* was published under the auspices of the Public Health Service (PHS), Department of Health and Human Services. This document, containing 226 objectives which were based on the business "management by objectives" process, established a series of objectives in six areas: health status, risk-reduction, public and professional awareness, health services and protective measures, surveillance and evaluation. These areas were further organized to represent 15 priority areas under the headings of Preventive Services, Health Protection, and Health Promotion. A status report on the progress of these objectives were summarized in *The 1990 Health Objectives for the Nation: A Midcourse* Review, which was published in 1986.

In 1987, a steering committee was established within the Public Health Service (PHS) to oversee the process of revising these objectives which are to be accomplished by the year 2000. While the Health Promotion and Disease Prevention Objectives for the year 2000 focus on national health objectives, the steering committee recognize the limitations of available data on "special populations," who tend to experience higher prevalence rates in virtually all of the 15 priority areas. While there is general consensus that data on special populations is limited or simply not available, this should not deter human service professionals and advocates from identifying health objectives. The Year 2000 Objectives therefore, have established criteria for establishing baseline data for special populations. They must be realistic and different from the general population which tends to have a better baseline at the onset and they must be challenging if they are to achieve greater proportional improvements than the general population (Promoting Health/Preventing Disease: Year 2000 Objectives for the Nation,1989). Thus, the availability of data should not be the primary consideration in establishing objectives. Alternate or proxy data can be used as guidelines for establishing viable and realistic objectives for this population.

It is important to note however, that while lack of data should not hinder efforts towards identifying viable health objectives for the migrant farmworker population, several barriers exist which will continue to hamper the systematic collection of data as well as efforts to document progress in meeting these objectives. First, there is no consistency in defining the target population. According to Ramos and Torres (1987), migrant farmworkers include individuals and families who leave their home and pursue farm work in another county, city, or even state. Seasonal farmworkers tend to be more geographically stable, however, they may become migrants if it becomes financially necessary. Ramos and Torres' (1987) overview of migrant and seasonal farm work indicated that none of the five major and three minor statistical data collection systems that endeavor to count this population use the same definition to define "migrant," "seasonal," or "farm work." This lack of uniformity makes it difficult to make comparisons and to document needs.

"Migrants, migrant farmworkers, farmers, and seasonal workers" are not the same, yet there has been a tendency to use these terms interchangeably. The migrant farmworker population appears to be diverse in terms of demographic characteristics, however, these differences are often overlooked. There has been

a tendency to aggregate this population, rather than examine unique factors such as gender, age, acculturation issues, race/ethnicity, etc. This lack of consistency or clarity in defining the target population makes it difficult to gather data on the size of this population and to establish realistic but viable objectives. It is estimated that the majority of the 5 million migrant and seasonal farmworkers are Hispanic, Black, and Haitian. More than 125 testifiers at the various Year 2000 hearings explicitly indicated the need to address the unique health needs of minority populations (Healthy People 2000: Citizens Chart the Course, 1990). According to Ramos and Torres (1987), Mexican Americans comprise the largest group of migrant farmworkers, followed by Blacks. The proportion of farmworkers in a given region, however, varies. In addition, this population typifies a group that has long experienced chronic poverty and often is described as the "working poor."

The purpose of this paper is to review the status of research and evaluation efforts of the migrant-specific health objectives aimed at reducing alcohol and other drug abuse.

Undeniably, migrant and seasonal farmworkers are a diverse special population that has historically posed unique problems and issues for human service organizations. It appears, however, that the gaps and barriers which have long been documented as critical to the design, implementation, and evaluation of services for this population has widened rather than narrowed.

In 1977, Ramos (1977) provided the following commentary regarding human services for migrant and seasonal farmworkers and their families:

> *Although... social agencies have been established to provide highly visible services for narrowly defined needs of migrant farmworkers, they and their families continue to challenge the resources, creativity, and responsiveness of the human services network... (105: 1977).*

Ten years later, Ramos and Torres' (1987) overview on the status of migrant and seasonal farmworkers concluded:

> *Farmworkers labor in virtually every state, yet they are systematically undernumerated, underpaid, underprotected by the law, and underserved or not served by those programs categorically designed to assist them. (154:1987).*

While the plight of farmworkers and their families has been periodically portrayed in both the electronic and print media (Ramos and Torres, 1987), the professional literature has only recently begun to address the human service needs of this population. A review of *Social Work Research and Abstracts*, which includes abstracts from over 200 social work and social science journals, resulted in 38 citations during 1981-1991 under the headings of "migration", "migrant farmworkers" and "seasonal migration/farmworkers." Of these, only five focused directly on migrant and seasonal farmworkers. The remaining 33 articles examined general migration patterns such as urban to rural migration, seasonal population shifts among the elderly and/or retired, and factors contributing to migration. There were three articles that focused exclusively on migration and blacks, Asians, and Native Americans. Three of the five articles contain preliminary or descriptive data on the health status of migrant farmworkers and their families as well as recommendations and strategies for providing primary care to this population. One article explored mental health issues. During this ten year period, one doctoral dissertation was written on the efficacy of various data collection methods for gathering data on migrant and seasonal farmworkers.

Rust's (1990) computerized literature search of the larger and more comprehensive MEDLINE files from 1966-1989 found 485 articles on migrant farmworkers. Of these 152 focused specifically on migrant farmworkers and 51 were general articles on health status. It has been only within the past ten years that quantitative studies have been emerging in the areas of family violence, substance abuse, and psychiatric/mental health symptomatology. Rust's (1990) search located only one article on migrant farmworkers and substance abuse which was published in 1985. The first article that explored AIDS and HIV seroprevalence among the migrant farmworker population appeared in 1987.

A recent search conducted by the National Clearinghouse for Alcohol and Drug Information, Office for Substance Abuse Prevention on substance abuse among migrant and farmworkers resulted in 16 articles. Of these, six focused on populations outside of the U.S. (Pollack, 1991).

Consequently, it is not surprising that relatively little is known about migrant agricultural workers who continue to be the lowest paid force in America despite their long hours of labor (Fuentes, 1974; Slesinger, Christenson & Cautley, 1986) in hazardous conditions (Ramos, 1977; Cordes & Foster, 1988; Ramos & Torres, 1987) without basic sanitary facilities. It has been only within the past five years that the federal government ruled that toilet facilities should be provided to farmworkers working in the fields (Goldsmith, 1989).

## Alcohol and Other Drug Use

A series of four objectives have been established to reduce alcohol and other drug abuse among migrant farmworkers and their families. Public awareness objectives are designed to increase awareness on health risks and prevention interventions. Professional education and awareness is aimed at increasing the number of professionals that are knowledgeable and trained in the provision of appropriate alcohol and other drug abuse interventions. Improved services seek to increase comprehensive, accessible and appropriate alcohol and other drug use prevention interventions. Risk reduction targets the reducing risk factors associated with alcohol and other drug use. Finally, Health Status objectives seek to reduce death, disease, and disability associated with alcohol and other drug use.

Objectives for the general population are reviewed and recommendations for elaborating or establishing additional objectives for the migrant farmworker population are described in the following respective sections.

### Increased Public/Professional Awareness

#### General Population Public Awareness Objectives

1) Increase to at least 33% the estimated proportion of intravenous drug abusers who are in drug treatment programs and abstain from intravenous drug use. (Baseline: An estimated 11% of opiate abusers were in treatment in 1989); baseline data on abstention are unavailable).

2) Increase to at least 90% the proportion of high school seniors who perceive social disapproval associated with the use of alcohol, marijuana, and cocaine. (Baseline: 65.3% for five or more drinks of alcohol once or twice each weekend; 74% for occasional use of marijuana; and 89.1% for experimentation with cocaine, in 1988).

3) Increase to at least 90% the proportion of women ages 15 through 44 who know that alcohol, smoking, and other drug use during pregnancy poses risks to the fetus. (Baseline: 62% knew of Fetal Alcohol Syndrome, 88% knew that heavy drinking causes birth defects and 75% knew that smoking causes miscarriages in 1985; baseline data unavailable for other drugs).

4) Increase to at least 95% the proportion of people age 12 and older who know that IV drug use increases risks for HIV and hepatitis infection. (Baseline data unavailable).

#### General Professional Education and Awareness Objectives

5) Increase to at least 50% the proportion of national professional organizations with roles in the delivery of health and mental health services that provide continuing education on the prevention, identification, and referral or treatment of alcohol and other drug problems. (Baseline data available in 1989).

6) Increase to at least 70 the number of medical school fellowships or faculty development programs in alcohol and other drug problems. (Baseline: 40 in 1988).

#### Migrant Specific Objective

Increase to at least 50% the proportion of health professionals who have adopted alcohol and drug abuse incidence and needs assessment for appropriate age categories resulting in the documentation of baseline data at least on a local level.

Despite increasing excitement generated by the preliminary outcomes of alcohol and other drug use prevention efforts, there is cautious optimism regarding the extent to which these efforts can be replicated and generalized to various special populations such as migrant farmworkers and their families. Early evaluation efforts of drug education programs failed to include minority youth and results were not discussed in terms of outcomes by race and/or ethnicity (Berberian et al., 1976). Recently, several researchers have initiated evaluation studies to determine the extent to which prevention programs developed for the general population will be similarly effective for minority youth (Bettes, et al., 1990). The establishment of a systematic data collection mechanism that will routinely collect data regarding alcohol and other drug use patterns will be a critical factor in assisting health care professionals to assess progress. Given the status of existing data collection systems, it may be more viable to modify the migrant specific objective to establish procedures for collecting *prevalence* rather than *incidence* data. If modifications will be made to the data collection instruments currently in place at migrant health and other

human service organizations, efforts should be made to collect comparable data as well as the source of data.

Most states have a client-oriented data collection system that includes information about those entering publicly funded treatment programs. It may be useful at this point, to explore the feasibility of using these existing systems to include categories that would allow for documenting the extent to which migrant farmworkers enter state-funded treatment programs. Treatment providers could be surveyed to determine whether they have/have not treated migrant farmworkers in their programs, particularly those located in geographic areas where farmworkers are more likely to reside. Based on the current state of the art regarding this target population, surveying current treatment providers may offer insight as to factors that appear to increase or decrease the likelihood that this population will seek and remain in treatment. Additional information regarding current available services for this population would provide some preliminary data regarding gaps in current services as well.

Similarly, DATAR collects national treatment data to determine treatment outcomes. The occupation code list includes a category for "farmer and farm manager" and a category for "farm laborer (foreman, picker)." There is a major difference between a "foreman" and a "picker" and perhaps this category may be further delineated to insure that migrant farmworkers who enter treatment (regardless of the number) be examined separately.

Mechanisms for data collection need to include women and youth, particularly information on AIDS and HIV seroprevalence. Given the fact that Hispanics comprise a significant number of migrant farmworkers, the latest findings regarding Hispanics and AIDS becomes increasingly important.

In March 1989, 75% of women with AIDS were women of color. Fifty percent were black and 25% were Hispanic. Unlike their male counterparts, Hispanic women live an estimated 45 days after diagnosis because of an additional factor that contributes to the breakdown of their immune system: pregnancy. In addition, women with AIDS are more likely to be abandoned by their partners leaving them socially isolated and at greater risk for migrantcy and homelessness. An estimated 82% of the children with AIDS are Hispanic who live an estimated two years. Locally, in Bexar County (San Antonio, Texas), there are approximately 20,000 births per year. The actual rate of .88 per thousand births suggests that approximately 19-20 babies will test HIV positive each year. Although many of these test positive because the virus was transmitted in utero or perinatally through their mothers, it is estimated that as many as half will eventually convert to negative status (Women, Chemical Addiction & AIDS, 1989). Even half of 19-20 births remains a significant number of children and mothers that will need services. The prevention of maternal transmission of AIDS should be a top prevention/education priority for women of child-bearing age.

Additional objectives may include increasing women's knowledge regarding the effects of alcohol and other drug use on the fetus. Among the migrant farmworker population, it is not uncommon for women (and children) to also work the fields, and as such represent a unique population with unique needs.

Relatively little information is available regarding alcohol and other drug use among children of migrant farmworkers, this data needs to be collected so that feasible objectives may be established. In Texas, an annual survey is conducted that includes children in grades 4 to 6 as well as 9-12. States collecting this information may need to examine the likelihood that some modifications may yield additional information about a largely neglected population. The results from these data may also help in the preliminary identification of possible risk factors for this population that may or may not be similar for the general population.

Watson et al.'s (1985) study of alcohol consumption among migrant laborers in Western New York which was largely black and Haitian men found that migrants traveling in families tended to create a more stable environment and thus "insulated" them from excessive alcohol consumption. Increasing alcohol consumption, however, was noted among single, unattached, and older males who did not have a family support system. Results of this study were based on interviews.

## Improved Services

### General Population Objectives

7) Expand to all school districts and private schools the provision of appropriate primary and secondary school educational programs on alcohol and other drugs, preferably as part of comprehensive school health education. (Baseline: 63% provided some instruction, 39% provided counseling, and 23% referred students for clinical assessments in 1987).

8) Extend adoption of alcohol and drug free work environment policies to at least 40% of worksites

with 50 or more employees. (Baseline data unavailable.)

9) Extend to all States driver license suspension/revocation laws and programs for people determined to have been driving under the influence of intoxicants. (Baseline: 23 States and DC in 1988).

### Migrant Specific Objective

Not less than 50% of communities with more than 2,000 farmworkers shall provide a basic set of accessible substance abuse services which are culturally and linguistically appropriate to the farmworker population, to include assessment, crisis intervention and immediate referral.

While the objectives for the general population focus on the provision of alcohol and other drug use information to youth in schools as part of the school curriculum, little is known about the appropriateness of these materials for children of migrant farmworkers. In Texas, 47.2% of 7th-12th graders indicated they received information about alcohol and other drugs in Health Class, 62% from an Assembly Program, 27.4% from a guidance counselor, 37.3% from Science Class and 14.7% from their social studies class (TCADA, 1990). Similar efforts could be included for children of migrant farmworkers to determine sources of information regarding alcohol and other drug use. Schools more likely to have children of migrant farmworkers enrolled could similarly be surveyed to determine whether they offer alcohol and other drug use information as part of their curriculum. If these schools are included in statewide or local surveys, items could be included that would identify the extent to which children of migrant farmworkers are receiving this information.

The migrant specific objective calls for the enumeration of those communities with 2,000 farmworkers followed by a review of alcohol and other drug use prevention and intervention services. These services will need to be examined in terms of services available for youth and women. If the services include referral, an analysis of where migrant farmworkers and their families are referred to will need to be delineated.

There has been increasing interest in assuring cultural sensitivity in service delivery. According to Delgado (1988) service agencies that take culture into consideration in the development of intake and other data collection instruments are more likely to yield useful and accurate information. Some of the recommendations for service providers include a concerted effort to understand what role alcohol and other drug use plays in the family; exploring how a client perceives themselves in terms of ethnicity, (a classification system that categorizes clients simply as "Cuban," "Mexican American," etc. ignores major social and cultural characteristics such as language, legal status, etc. There is no universally accepted definition of what persons in the U.S. are "Hispanic." A similar observation has been made for American Indians (Becerra, et al., 1991). Language preference needs to be explored; the nature and extent of social networks; and finally the types of prior human service assistance or experiences. Watkins, et al. (1990) reported that service providers ability to provide health services to migrant farmworker mothers in their own language was a factor in the success of their program.

## Reduced Risk Factors

### General Population Objectives

10) Increase abstinence in the use of tobacco, alcohol, cocaine, and marijuana among pregnant women by at least 40%. (Baseline data available in 1989).

11) Increase by at least two years the average age of first use of alcohol and marijuana by adolescents ages 12 through 17. (Baseline: Age 13.1 for alcohol and age 13.4 for marijuana in 1988).

12) Reduce by at least 50% the use of alcohol, marijuana, and/or cocaine among young people, as measured by reported use in the past month:

Type of substance used/by:
Alcohol among young people ages 12-17: 12.6%. (Baseline: 25.2% in 1988).
Alcohol among young people ages 18-25: 32.7%. (Baseline: 65.3% in 1988).
Marijuana among young people ages 12-17: 3.2%. (Baseline: 6.4% in 1988).
Marijuana among young people ages 18-25: 7.8%. (Baseline: 15.5% in 1988).
Cocaine among young people ages 12-17: 0.6%. (Baseline: 1.1% in 1988).
Cocaine among young people ages 18-25: 2.3%. (Baseline: 4.5% in 1988).

13) Reduce occasions of heavy drinking of alcoholic beverages among high school seniors and college students to no more than 28% of high school seniors and 32% of college students

within the last year. (Baseline: 37% of high school seniors and 43% of college students in 1987).

14) Reduce alcohol consumption by people age 14 and older to an annual average of no more than 2 gallons of ethanol per person. (Baseline: 2.58 gallons of ethanol in 1986).

### MIGRANT SPECIFIC OBJECTIVE:

Decrease the use of tobacco, alcohol, cocaine, and marijuana among farmworkers by 20%.

There is a lack of data (including proxy or alternate data) that could be used for establishing baseline alcohol and other drug use among the migrant farmworker population.

The objectives specified for youth in the general population exemplify the concern of the Objectives 2000 which indicate better baselines for the general population compared to special populations. While not specific to migrant farmworkers, baseline data from two sources (Texas and Monitoring the Future) could be helpful in guiding the establishment of baseline data for children of migrant farmworkers. For example, the 1990 survey of 7th-12th graders in Texas found differences in reported levels of use in the past month. Tobacco use was highest for white children (29.2%), followed by Hispanics (24.6). Black children reported the lowest past month use of tobacco (7.1%). Alcohol use, however, was relatively similar for both white and Hispanic 7-12th graders (46.7% and 46.1%, respectively). Approximately 35% (35.5%) of black students reported past month use of alcohol. The baseline for alcohol use for the general population was 25.2% in 1988 for youth age 12 to 17.

The Monitoring the Future High School Survey (Bachman et al., 1991) which aggregated 1985–1989 data reported 65% of Mexican American male seniors and 50.5% of Mexican American female seniors used alcohol within the past 30 days. Crack/cocaine, however, was highest for Hispanic youth (2.8%), followed by white students (1.2%), the reported use of crack/cocaine by black students was negligible.

During 1990, Texas also surveyed 4th-6th graders regarding their alcohol and other drug use and found that Hispanic children were more likely to report past year use of tobacco, marijuana, and inhalants than either black or white children (TCADA, 1990). It may be that additional migrant-specific objectives may need to be included to address reduced alcohol and other drug use among children and youth. Inhalant abuse, which is not mentioned for the general population, may need to be examined for this population. Six percent of Texas Mexican American children in grades 4-6 reported having used inhalants in the past year, compared to 4% of black and white children.

Additional risk factors to consider in reducing risk for alcohol and other drug use focuses on child maltreatment. Abused and neglected children are at greater risk for subsequent alcohol and other drug use. Alvarez et al. (1988) survey of New York State migrant children found they were six times more likely to be maltreated than other children in the state. They examined levels of mobility as factors that may increase risk for child maltreatment and found that families classified as intrastate reported the highest proportion of maltreatment (60.2 per 1,000) than interstate (14.1 per 1,000 but if this is adjusted to reflect their short stay of 4 months out of the 12, increases to 42.3 per 1,000) or re-settled migrants (43.5 per 1,000).

## IMPROVED HEALTH STATUS

### GENERAL POPULATION OBJECTIVES

15) Reduce alcohol-related motor vehicle crash deaths to no more than 0.9 per 100 million vehicle miles traveled (VMT) and to 8.5 per 100,000 people. (Baseline: 1.2 per 100 million VMT and 9.7 per 1000,000 people in 1987).

Special Population Target:
Among American Indian/Alaska Native men: 47.7/100,000. (52.2/100,000 in 1987).

16) Reduce cirrhosis deaths to no more than 6 per 100,000 people. (Age-adjusted baseline: 9.6 per 100,000 people in 1985).

Special Population Targets:
Among black men: 12.5/100,000 (23.5/100,000 in 1985)
Among American Indians/Alaska Natives: 19/100,000 (29.6/100,000 in 1986).

17) Reduce poisoning deaths from narcotics, opium derivatives, and local anesthetics such as cocaine among men ages 25 to 44 to no more than 3.5 per 100,000. (Baseline: 5.9/100,000 in 1986).

18) Reduce drug abuse-related emergency room visits for people ages 5 and older by at least 50%. (Baseline data available in 1990).

### MIGRANT SPECIFIC OBJECTIVE

> Reduce by 50% the rate of death and bodily injury as a result of DWI accidents.

While specific data on cirrhosis death rates for migrant farmworkers is not readily available, some proxy (although dated) data may be useful in guiding the establishing of objectives for this population. An early study by Moustafa and Weiss (1968) reported a cirrhosis death rate for Hispanics equal to 11/100,000 in San Antonio, Texas compared to 9.7/100,000 for Anglos.

A California study of alcohol related arrests in 1980 reported that Hispanics accounted for 28.5% of all drunk driving arrests (Caetano, 1983). Caetano's (1983) analysis of alcohol related arrests suggests that Hispanics are more likely to be arrested for public drunkenness rather than drunk driving. This finding is particularly important to consider in establishing objectives for migrant farmworkers.

## SUMMARY AND RECOMMENDATIONS

There are various local, state and national surveys that are routinely administered to determine patterns and extent of alcohol and other drug use. It may be helpful to review these mechanisms and determine whether they can be modified to include migrant farmworkers in their sample. Although the numbers that would be collected would be considered too small for elaborate statistical analysis, they would be helpful to migrant health professionals as preliminary data. For example, the Monitoring the Future project conducted since 1979 by the University of Michigan surveys nationally representative samples of high school seniors. While the survey has been criticized because it excludes a disproportionate number of minority youth who drop out of school, a report was published in 1991 that presented preliminary data by race and ethnicity. Prior to this time, no mention was made of the ethnic and/or racial composition of the students sampled. Although the percentage of minority students has been small, their proportion in the total sample is increasing (Bachman, et al., 1991). For example, Mexican Americans comprised less than 2% of the 1976-79 and 1980-1984 sample, but in 1985-89, 4.2% of the sample was Mexican American. White students comprised 79% of the sample during 1985-89. The disproportionate school drop out rate may rule out national school surveys. Almost half (48%) of migrant farmworkers have less than a ninth grade education, however, it is not known how the children of farmworkers fare. Aday et al. (1980) have recommended several methodological issues to consider in conducting research with Spanish heritage populations that can be generalized to the migrant farmworker population such as language barriers, and technical problems regarding wording of survey items to increase response rates.

The objectives should also include the source which is used for establishing baseline data. This will assure that data is collected systematically. Additional objectives need to be specified for women and children. While it is generally recognized that data on these populations is limited or nonexistent, the sheer lack of information should challenge professionals and advocates to identify realistic, appropriate and relevant objectives to ensure the health of this nation. Unless the health care needs of minorities as well as migrant farmworkers and their families are addressed, the objectives for the rest of the Nation become tenuous.

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Originally published in *Public Health Reports*, Vol. 105 No. 5, September-October 1990

# PATTERNS OF RATES OF MORTALITY FROM NARCOTICS AND COCAINE OVERDOSE IN TEXAS, 1976-87

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## ABSTRACT

Drug overdose mortality data for narcotics and cocaine for Texas for 1976-87 reveal a cyclic pattern of narcotics mortality falling from 0.92 per 100,000 population in 1976 to a low of 0.13 in 1979, and rising to 0.62 in 1986. The data also show a sharp increase in cocaine mortality from 0.07 per 100,000 in 1983 to 0.38 in 1987. The data indicate that men consistently are at higher risk than women for overdose from both categories of drugs.

Hispanics in the El Paso and San Antonio areas were found to have much higher risk of cocaine mortality. The evidence suggests that narcotics and cocaine mortality is highest among the blue collar categories of the work force.

The cyclical pattern of drug overdose mortality suggests the need for more examination of the historical interplay of public policies and social factors against the magnitude of the drug problem. The differences in mortality patterns by sex, ethnicity, and location indicate the need to develop policies and programs that address the unique characteristics of different at-risk populations.

## INTRODUCTION

Effective responses to drug problems, including identifying drug use risk factors and high risk groups require understanding epidemiologic patterns of these problems.

Variations in the nature of drug problems are seen in different localities and differ between men and women, among ethnic groups, and in the types of drugs abused.[1-5] Several researchers have suggested that there is a cyclical pattern to the problems of drug abuse.[6,7] The differences manifested in drug problems indicate the complexity of the overall problems and the need for continuing examination of their patterns and the populations at risk.

Population surveys are useful for examining patterns in drug problems, but they have their shortcomings. First, the cost of surveys of sufficient size to be useful preclude conducting them locally at intervals frequent enough to characterize and monitor drug problems on a local or regional basis. Such surveys are most practical on a large scale, such as nationally. Secondly, survey samples may not be large enough to permit differences in drug problems to be examined among geographic and demographic subsets that are important to developing responses to drug problems. Lastly, the types of people involved in abuse of narcotics and cocaine are not easily reached through either face-to-face or telephone interviews, and their responses may be of limited reliability.

Data on drug overdose mortality can be a useful indicator of patterns of drug abuse and can enhance and supplement surveys to identify changes in the extent of drug problems during a long period, as well as those populations at risk.[8,9]

We present the findings of our research on patterns of drug overdose mortality in Texas as part of an effort to develop a better understanding of the nature of drug problems sectionally and over long periods. Patterns of narcotics mortality in general, and cocaine mortality in particular, in Texas during 1976–87 were examined, and detailed analysis is offered for 1985–87.

## Study Organization and Data

We included in the study those persons who died in Texas during 1976–87 for whom the primary or contributing cause of death noted by the medical examiner on the death certificate was overdose of a narcotic drug, or specifically cocaine. Narcotics deaths were defined as those resulting from the use of any narcotic drug, such as heroine, morphine, and dilaudid, since they frequently are not identified on death certificates. Cocaine included both cocaine and crack cocaine. Deaths that simply involve drugs, such as traffic accidents or homicides, were not included.

Data were abstracted from the original certificates filed with the Texas Department of Health. In some cases, the specific drug causing death was identified by telephoning the medical examiner. Data abstracted from death certificates for 1976–87 were age sex, ethnicity, and the name of the drug or drugs believed to have caused the death. Data for 1985–87 also included occupation, the county of the death, and the month of the death.

The data are of interest because, first, being from a specific population sample, namely Texas, rate-based comparisons can be made. This is not possible with data on drug overdose from the Drug Abuse Warning Network because they are drawn from a sample of emergency rooms. Second, the level of detail available directly from death certificates is not readily obtainable from other sources.

The data in this study reflect only deaths that were uniquely caused by either narcotics or cocaine. Deaths attributable to those drugs in combination with other drugs were not included, because, data-reporting combinations often precluded accurate identification of the combinations. Examination of the data for 1985–87 as well as data from other sources, indicated that the use of mixtures of narcotics, cocaine, and other drugs has been increasing in recent years.[10] Consequently, it is likely that the mortality figures presented in this study for that time period under-report the relative level of the problems.

Furthermore, the data are subject to the level of reliability of medical examiners' assessments of cause of death. Variations between locales may be caused partly by differences in the rigor of the medical examiner's examination. During these periods of low levels of drug abuse, drug overdose mortality may be understated, because medical examiners may not be as likely to be looking for drugs as the cause of death.[8]

Because mortality patterns reflect the relative lethality of a drug, comparisons between two categories of drugs do not necessarily represent actual differences in their relative prevalence levels.[11] Comparisons of data for 1979 with that other years for Texas suggests that the 1979 data may be incomplete.[10]

## Data Analysis

Our analysis consisted primarily of calculating crude and age-specific mortality rates. Indirect age standardization was used in analyzing mortality by location and ethnicity to account for age-structure differences among sub-populations and to address the relatively small number of deaths in several categories.[12] Direct standardization was not possible because the small number of deaths in each category precluded the calculation of age-specific rates. In the indirect method, the actual number of deaths in a category was compared to the expected number of deaths calculated by applying age-specific mortality rates of a standard population to the population of the category being examined. Age-specific rates for all narcotics deaths in 1986 were used as the standard. Examination of the age structures of the populations used in other analyses indicated that age adjustment was not necessary.

The population data for calculating most rates were estimates developed by the Texas Department of Health. The population base data used for examining occupational rates were 1980 population figures prepared by the Bureau of the Census.[13] The figures were increased by the percent change in the size of the population since 1980, under the assumption that the composition of the work force was relatively constant during the period. Growth in the numbers of workers in service occupations since 1980 may have resulted in rates for service-based occupations being somewhat overstated, and rates for other occupations being understated. More up-to-date data, however, were not available.

## Mortality Rate Patterns

### Overall Mortality Rates

Table 1 shows a cyclic pattern of narcotics mortality rates during the period. The mortality rate fell from 0.92 per 100,000 population in 1976 to 0.13 in 1979, rose to 0.62 in 1986, and declined to 0.31 in 1987. The differences between the high rates for 1976, 1977,

**Table 1. Deaths from Narcotics and Cocaine Overdose and Mortality Rates per 100,000 Population, By Year, Texas, 1976–87**

| Year | Narcotics | | | Cocaine | | |
|---|---|---|---|---|---|---|
| | No. | Rate | C1 | No. | Rate | C1 |
| 1976 | 120 | 0.92 | 0.16 | – | – | – |
| 1977 | 57 | 0.43 | 0.11 | – | – | – |
| 1978 | 34 | 0.25 | 0.08 | – | – | – |
| 1979 | 18 | 0.13 | 0.06 | – | – | – |
| 1980 | 25 | 0.18 | 0.07 | – | – | – |
| 1981 | 27 | 0.18 | 0.07 | – | – | – |
| 1982 | 58 | 0.38 | 0.10 | – | – | – |
| 1983 | 29 | 0.18 | 0.07 | 11 | 0.07 | 0.04 |
| 1984 | 43 | 0.28 | 0.08 | 21 | 0.13 | 0.06 |
| 1985 | 85 | 0.52 | 0.11 | 23 | 0.14 | 0.06 |
| 1986 | 104 | 0.62 | 0.12 | 52 | 0.31 | 0.08 |
| 1987 | 52 | 0.31 | 0.08 | 65 | 0.38 | 0.09 |

*NOTE: C1 = 95 percent confidence intervals. Cocaine deaths prior to 1981 were too few to permit calculation of rates.*

1985, and 1986 were found to be statistically significant when compared to the low rates for 1979–81.

Because of the surprisingly sharp decline from 1986 to 1987, we conducted an examination of mortality rates by month from 1985 to 1987. The decline was seen to be a pattern of steady monthly decline beginning in early 1986. As noted, there was an indication that a growing proportion of drug overdose deaths in recent years was occurring as a result of narcotics used in combination with other drugs, deaths not included in this analysis. Consequently, the rates for 1985 and 1986 may underestimate the relative level of the problems. The decline in 1987 may be partially an artifact of that shift.

Prior to 1983, cocaine mortality rates ranged from one to eight deaths in a year, exceeding four deaths in only 2 years. Rates for those years are not presented. There was, however, a sharp rise in mortality from 1983 that corresponds to the introduction of crack cocaine. The

**Figure 1. Mortality Rates per 100,000 Population from Narcotics Overdose, 1976-87, and from Cocaine Overdose, 1983-87, in Texas, by Sex and Year**

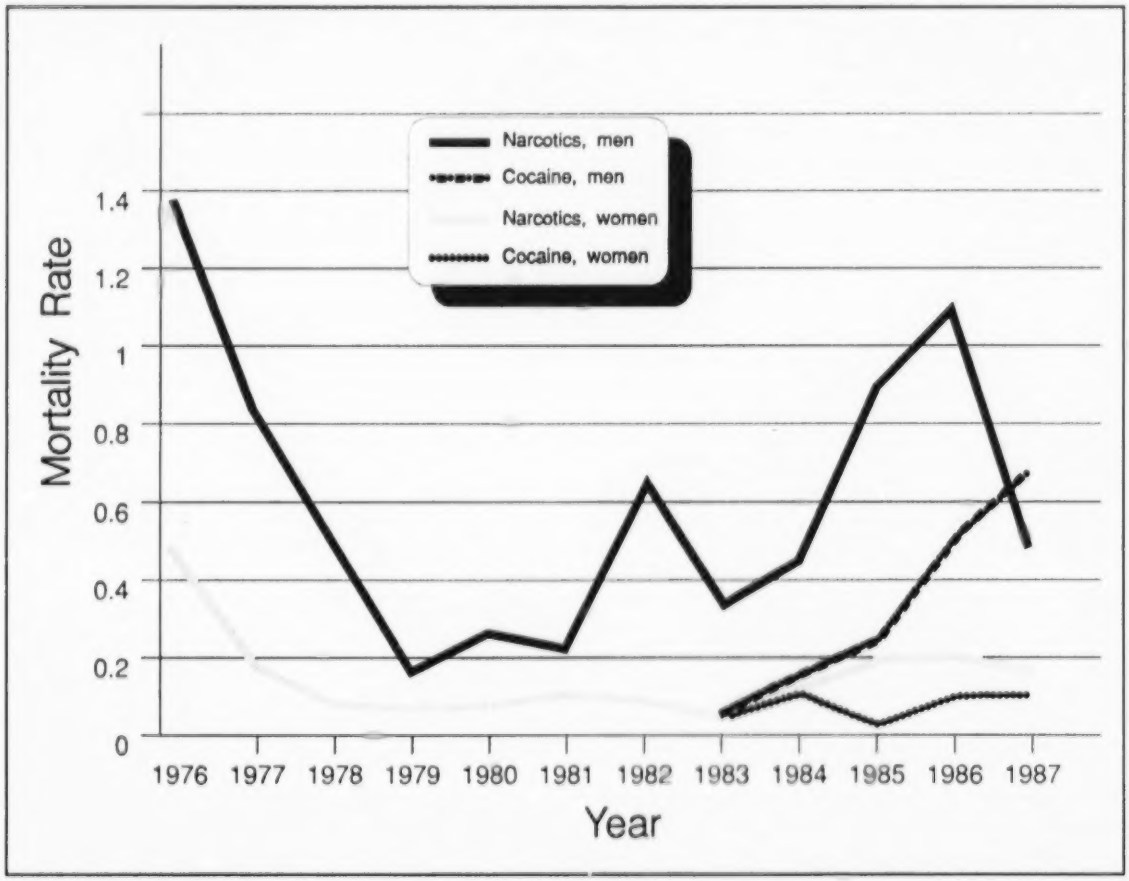
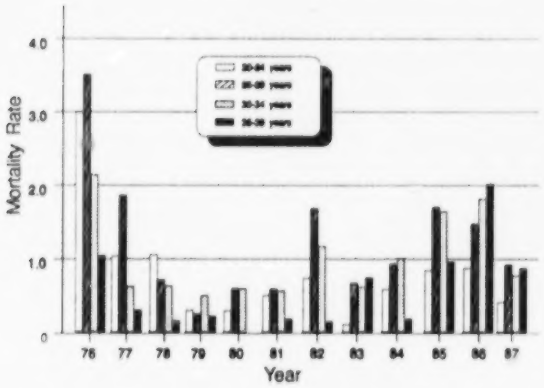


**Table 2. Mean Age at Death From Narcotics and Cocaine Overdose, By Year, Texas, 1976–87**

| Year | Narcotics | | Cocaine | |
|---|---|---|---|---|
| | Mean Age | SD | Mean Age | SD |
| 1976 | 27.1 | 8.5 | – | – |
| 1977 | 29.3 | 11.1 | – | – |
| 1978 | 28.6 | 10.3 | – | – |
| 1979 | 28.5 | 7.4 | – | – |
| 1980 | 33.2 | 14.1 | – | – |
| 1981 | 30.1 | 9.3 | – | – |
| 1982 | 29.6 | 7.7 | – | – |
| 1983 | 31.9 | 7.2 | 28.1 | 6.6 |
| 1984 | 31.4 | 8.9 | 29.6 | 6.7 |
| 1985 | 31.4 | 7.7 | 31.1 | 5.9 |
| 1986 | 31.5 | 8.9 | 30.3 | 6.4 |
| 1987 | 33.0 | 10.3 | 31.4 | 8.1 |

*NOTE: SD = standard deviation. Cocaine deaths prior to 1981 were too few to include in the analyses.*

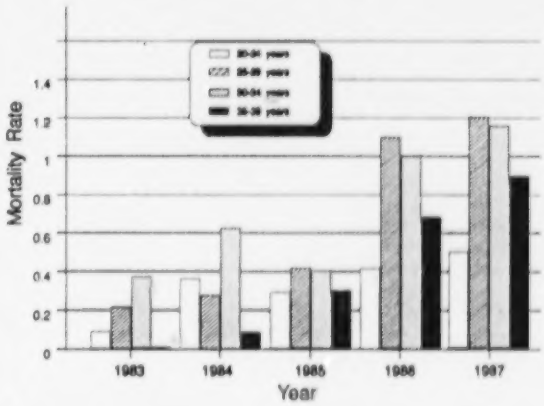
**Figure 2. Age-Specific Mortality Rates per 100,000 Population from Narcotics Overdose, Texas, 1976-87, By Year**




differences between the rates for 1983–85 and those for 1986–87 are all statistically significant. The 0.38 mortality rate for cocaine exceeded the narcotics mortality rate for the first time in 1987, although the difference between the two is not statistically significant. In addition, the rate is still less than one-half as high as the rate for narcotics in 1976. The rates may underestimate the current level of the problems, because overdoses from cocaine in combination with other drugs are not included.

While the data suggest that the current drug crisis may be part of a larger cycle of drug abuse, it is important to note that current mortality rates include not only

**Figure 3. Age-Specific Mortality Rates per 100,000 Population from Cocaine Overdose, Texas, 1983-87, By Year**




narcotics, but cocaine, which is pharmacologically different and may require different approaches to treatment and prevention.[14,15]

## Sex Specificity

Mortality rates per 100,000 population for men and women for the two drug categories are presented in figure 1. Rates for men are as much as three times higher than those for women, indicating that men are a higher risk population. For deaths from narcotics, the differences between the rates for men and women were found to be statistically significant for all years except 1979–81. For deaths from cocaine, the differences were statistically significant for 1985–87. Changes in mortality during periods of years are primarily attributable to increases or decreases in mortality among men. Mortality patterns for women show only slight changes.

## Age Specificity

The mean ages for death from narcotics and for cocaine shown in table 2 range from 27 to 33, and indicate that drug overdose mortality is a problem of the young adult population. More than 70 percent of all deaths occurred among persons ages 20 to 39 years, both for narcotics and cocaine for each year we examined.

Because of the appearance of upward movement in the mean age at death, shown in table 2, age-specific mortality rates were examined to account for the effects of changes in the population age structure, as

**Table 3. Deaths from Narcotics and Cocaine Overdose and Mortality Rates per 100,000 Population, By Ethnicity and Year, Texas, 1976–87**

| Ethnicity and Year | Narcotics | | | Cocaine | | |
|---|---|---|---|---|---|---|
| | No. | Rate | C1 | No. | Rate | C1 |
| *White* | | | | | | |
| 1976 | 61 | 0.66 | 0.17 | – | – | – |
| 1977 | 29 | 0.31 | 0.11 | – | – | – |
| 1978 | 20 | 0.21 | 0.09 | – | – | – |
| 1979 | 13 | 0.13 | 0.07 | – | – | – |
| 1980 | 14 | 0.14 | 0.07 | – | – | – |
| 1981 | 15 | 0.15 | 0.08 | – | – | – |
| 1982 | 32 | 0.31 | 0.11 | – | – | – |
| 1983 | 14 | 0.13 | 0.07 | 9 | 0.08 | 0.06 |
| 1984 | 23 | 0.21 | 0.09 | 17 | 0.16 | 0.07 |
| 1985 | 31 | 0.28 | 0.10 | 16 | 0.15 | 0.07 |
| 1986 | 47 | 0.42 | 0.12 | 25 | 0.23 | 0.09 |
| 1987 | 27 | 0.24 | 0.09 | 41 | 0.36 | 0.11 |
| *Black* | | | | | | |
| 1976 | 29 | 1.84 | 0.67 | – | – | – |
| 1977 | 9 | 0.56 | 0.37 | – | – | – |
| 1978 | 8 | 0.49 | 0.34 | – | – | – |
| 1979 | 4 | 0.24 | 0.24 | – | – | – |
| 1980 | 5 | 0.30 | 0.26 | – | – | – |
| 1981 | 1 | 0.06 | 0.11 | – | – | – |
| 1982 | 5 | 0.28 | 0.25 | – | – | – |
| 1983 | 1 | 0.05 | 0.11 | 1 | 0.05 | 0.11 |
| 1984 | 3 | 0.16 | 0.18 | 2 | 0.11 | 0.15 |
| 1985 | 11 | 0.58 | 0.34 | 3 | 0.16 | 0.18 |
| 1986 | 9 | 0.47 | 0.30 | 15 | 0.78 | 0.40 |
| 1987 | 4 | 0.21 | 0.20 | 15 | 0.77 | 0.39 |
| *Hispanic* | | | | | | |
| 1976 | 30 | 1.32 | 0.47 | – | – | – |
| 1977 | 19 | 0.80 | 0.36 | – | – | – |
| 1978 | 6 | 0.17 | 0.14 | – | – | – |
| 1979 | 2 | 0.08 | 0.11 | – | – | – |
| 1980 | 6 | 0.22 | 0.18 | – | – | – |
| 1981 | 11 | 0.38 | 0.22 | – | – | – |
| 1982 | 21 | 0.68 | 0.29 | – | – | – |
| 1983 | 14 | 0.42 | 0.22 | 1 | 0.03 | 0.06 |
| 1984 | 17 | 0.49 | 0.23 | 2 | 0.06 | 0.08 |
| 1985 | 42 | 1.17 | 0.35 | 3 | 0.08 | 0.09 |
| 1986 | 50 | 1.34 | 0.37 | 11 | 0.30 | 0.17 |
| 1987 | 21 | 0.55 | 0.23 | 7 | 0.18 | 0.13 |

*NOTE: C1 = 95 percent confidence intervals.*

shown in figures 2 and 3. There has been a change in the mortality patterns among the age groups, with the 35- to 39-year group becoming more prominent, as overall mortality rates increased in the early 1980s. One explanation for the change is an increasing growth of drug abuse among that older population. Alternatively, drug abusers from earlier periods may now be using more lethal forms of drugs, such as crack.

## Ethnicity and Location

Table 3 shows the crude mortality rates for whites, blacks, and Hispanics throughout the study period. The patterns show a generally higher risk of narcotics overdose mortality for Hispanics than either blacks or whites for most of the study period, with differences statistically significant for both 1985 and 1986. In addition, the rates depict a shift in the black population from narcotics overdose to cocaine overdose, as well as a greater risk of cocaine overdose mortality for blacks than either whites or Hispanics, with the differences statistically significant for both 1986 and 1987.

In order to assess the degree to which the ethnic patterns may be related to specific localities, age-standardized mortality ratios for 1985–87 were examined for three categories of Texas counties, as shown in table 4. The ratios represent a comparison of actual rates to expected rates. The first category is Bexar and El Paso counties, the two urban counties in Texas having populations in excess of 500,000 and Hispanic populations of slightly more than 50 percent of the total population. The second category is the four remaining counties having populations exceeding 500,000, and includes the Dallas–Forth Worth and Houston metropolitan areas. The last category is all other counties in Texas.

Table 4 illustrates the extent to which drug overdose mortality is related to drug type, area, and ethnicity. The Bexar–El Paso area has markedly higher narcotics mortality ratios for both whites and Hispanics than those for other groups, with deaths for this group numbering more than 25 percent of the total narcotics deaths for all 3 years.

For cocaine, however, the evidence suggests that mortality is higher among blacks, and to a slightly lesser degree among whites, in the area dominated by Houston and Dallas–Fort Worth. This indicates that cocaine emerged as an alternate to narcotics among whites and blacks in this area. The findings suggest the need to examine the role in drug problems of drug distribution networks, drug accessibility, and cultural norms.

## Occupational Mortality

While death certificates in Texas do not provide data on income, the deceased's usual occupation is pro-

**Table 4. Deaths from Narcotics and Cocaine Overdose and Age-Standardized Mortality Rates per 100,000 Population, By Ethnicity, Location, and Year, Texas, 1985–87**

| Area & Ethnicity | 1985 | | 1986 | | 1987 | |
|---|---|---|---|---|---|---|
| | No. | Rate | No. | Rate | No. | Rate |
| | | | **Narcotics** | | | |
| Bexar & El Paso: | | | | | | |
| White | 8 | 1.78 | 14 | 3.10 | 6 | 1.32 |
| Black | 0 | 0.00 | 2 | 3.12 | 0 | 0.00 |
| Hispanic | 28 | 5.60 | 36 | 6.98 | 13 | 2.45 |
| Houston & Dallas | | | | | | |
| White | 13 | 0.44 | 15 | 0.50 | 10 | 0.33 |
| Black | 8 | 1.16 | 6 | 0.85 | 2 | 0.28 |
| Hispanic | 4 | 0.64 | 8 | 1.21 | 3 | 0.43 |
| Other Counties | | | | | | |
| White | 8 | 0.22 | 12 | 0.33 | 11 | 0.29 |
| Black | 3 | 0.71 | 1 | 0.23 | 2 | 0.46 |
| Hispanic | 6 | 0.56 | 3 | 0.27 | 5 | 0.43 |
| | | | **Cocaine** | | | |
| Bexar & El Paso: | | | | | | |
| White | 1 | 0.22 | 0 | 0.00 | 0 | 0.00 |
| Black | 0 | 0.00 | 0 | 0.00 | 1 | 1.54 |
| Hispanic | 0 | 0.00 | 0 | 0.39 | 0 | 0.00 |
| Houston & Dallas | | | | | | |
| White | 12 | 0.41 | 17 | 0.57 | 25 | 0.82 |
| Black | 2 | 0.29 | 13 | 1.83 | 10 | 1.38 |
| Hispanic | 2 | 0.32 | 4 | 0.61 | 2 | 0.29 |
| Other Counties | | | | | | |
| White | 3 | 0.08 | 8 | 0.22 | 16 | 0.43 |
| Black | 1 | 0.24 | 3 | 0.70 | 4 | 0.92 |
| Hispanic | 1 | 0.09 | 4 | 0.36 | 5 | 0.43 |

*NOTE: The Bexar and El Paso areas consist of those counties. The Houston and Dallas areas are Harris, Dallas, Tarrant, and Travis counties, consisting mainly of the Houston and Dallas-Fort Worth metropolitan areas. Other counties are the remaining 248 counties of Texas with populations less than 500,000.*

vided, offering insights on economic status. The five categories presented in tables 5 and 6 represent the occupational groupings for which there were a sufficient number of deaths from which to calculate rates. For example, because there was only one death in any year in the farm labor category, it was not included. The clerical-service categories of clerical, household, and other service workers such as hotel clerks, were combined for statistical purposes.

The majority of those classified in this category were women. The operative and laborer categories were grouped because the available data did not permit accurate separation. The large majority (generally more than 75 percent) of those in the category were laborers. Thus, the category generally represents a lower income, blue collar group, and the rate may somewhat underestimate the actual level of the problems. The rates given here are only approximations and should be interpreted cautiously, both because of the small numbers in many of the categories and the somewhat imprecise denominator data.

As indicated in table 5, mortality rates for two occupational categories, craft persons and operatives laborers, are generally higher for both narcotics and coc than other categories. The differences in rates betv these two categories and the professional and cler service categories are statistically significant in both 1985 and 1986 for narcotics. The difference between operatives-laborers and the professional and clerical-service categories is statistically significant for cocaine in 1986 and 1987 and narcotics in 1987. This suggests that persons in usually lower wage, blue collar jobs may be at higher risk than those in other groups. Because of the growing proportion of service jobs, the observed differences between the categories may actually be greater than indicated.

The differences between the craft and operatives-laborers categories and the clerical-service category may be partially a result of sex differences, because the former categories had mainly men and the latter category had mainly women. The high rates for the sales category may be a reflection of the wide cross-section of persons who are classified as sales workers, although the prevalence of drug problems possibly is higher among those in this group. The largest gains in cocaine mortality are in the blue collar categories, without a corresponding increase in cocaine abuse among other groups. This may be related to the greater use of crack among low income persons.[5]

Since whites, blacks, and Hispanics have different labor force participation rates depending on the occupational category, mortality rates by occupation were calculated to determine if some of the mortality rate differences between the three groups may be related to occupational factors, such as relative income (Table 6). The pattern of higher mortality rates in the crafts and operative-laborer categories noted previously is evident here, and higher mortality rates for blacks and

**Table 5. Deaths from Narcotics and Cocaine Overdose and Mortality Rates per 100,000 Population, By Occupational Categories, Texas, 1985–87**

| Occupational Category | 1985 | | | 1986 | | | 1987 | | |
|---|---|---|---|---|---|---|---|---|---|
| | No. | Rate | C1 | No. | Rate | C1 | No. | Rate | C1 |
| | | | | Narcotics | | | | | |
| Professional, technical, owners, managers | 5 | 0.25 | 0.22 | 11 | 0.54 | 0.32 | 4 | 0.19 | 0.19 |
| Clerical, service | 8 | 0.50 | 0.35 | 6 | 0.37 | 0.29 | 7 | 0.42 | 0.31 |
| Sales | 2 | 0.35 | 0.49 | 7 | 1.22 | 0.90 | 7 | 1.20 | 0.80 |
| Craft | 20 | 1.82 | 0.80 | 23 | 2.05 | 0.84 | 8 | 0.70 | 0.49 |
| Operatives, laborers | 37 | 2.97 | 0.96 | 43 | 3.31 | 1.00 | 18 | 1.40 | 0.64 |
| | | | | Cocaine | | | | | |
| Professional, technical, owners, managers | 4 | 0.20 | 0.20 | 9 | 0.44 | 0.29 | 11 | 0.53 | 0.31 |
| Clerical, service | 2 | 0.13 | 0.17 | 6 | 0.37 | 0.29 | 9 | 0.54 | 0.36 |
| Sales | 5 | 0.88 | 0.77 | 5 | 0.87 | 0.76 | 4 | 0.68 | 0.67 |
| Craft | 2 | 0.18 | 0.25 | 12 | 1.07 | 0.61 | 14 | 1.23 | 0.64 |
| Operatives, laborers | 5 | 0.40 | 0.35 | 1 | 1.34 | 0.64 | 22 | 1.71 | 0.71 |

*NOTE: C1 = 95 percent confidence intervals.*

**Table 6. Deaths from Narcotics and Cocaine Overdose and Mortality Rates per 100,000 Population, By Occupational Categories and Ethnicity, Texas, 1985–87**

| Occupational Category | White | | | Black | | | Hispanic | | |
|---|---|---|---|---|---|---|---|---|---|
| | No. | Rate | C1 | No. | Rate | C1 | No. | Rate | C1 |
| Professional, technical, owners, managers | 34 | 0.68 | 0.23 | 2 | 0.55 | 0.76 | 8 | 1.20 | 0.84 |
| Clerical, service | 18 | 0.59 | 0.27 | 11 | 1.49 | 0.88 | 9 | 0.83 | 0.55 |
| Sales | 27 | 1.90 | 0.72 | 3 | 4.64 | 5.25 | 0 | 0.00 | 0.00 |
| Craft | 45 | 1.92 | 0.56 | 9 | 3.70 | 2.41 | 25 | 3.23 | 1.27 |
| Operatives, laborers | 44 | 2.16 | 0.64 | 24 | 3.93 | 1.57 | 72 | 5.84 | 1.35 |

*NOTE: C1 = 95 percent confidence intervals.*

Hispanics predominate for most of the occupational categories. While this is a somewhat crude assessment, it does suggest that blacks and Hispanics are at a higher risk of overdose even when similar occupational groupings are considered. Since the data represent usual occupation and do not distinguish between those who are employed and those who are not, other factors, not the least of which is economic opportunity within classes, may explain the difference.

## Discussion

The findings raise issues concerning drug problems and the development of effective responses. First, the substantial period of decline in drug mortality prior to the increase beginning around 1980 raises questions about why the decline took place, as well as the causes of the current resurgence of the problems. No Statewide household survey data are available for narcotics prevalence during the same period to discern if the pattern is tied to changes in prevalence, or other factors, such as changes in the purity of the drugs. For example, some recent narcotics mortality has been attributed to the introduction of the more lethal Mexican black tar heroin.[16] This, however, does not explain the decline in mortality during the late 1970s, and only fully explains the increase in narcotics mortality if it is assumed that a prevalent population of constant size is using the more lethal heroin at an increasing rate. Thus, it is likely that some of the changes during a period of years are related to changes in prevalence. The rapid increase in cocaine mortality coincides with household survey data for Texas showing an increase in the use of cocaine from 1980 to 1988.[5]

More research is needed to examine factors such as average street price, estimated levels of supply, interdiction activities, economic conditions, and prevention and treatment activities during the same period to develop some explanation of the longitudinal pattern indicated. Evidence, for example, suggests that street prices for both narcotics and cocaine decreased in constant dollar terms during the period in which mortality increased.[10,16] This pattern does not support the argument that the permissiveness of the sixties and seventies played a central role in the current drug

problems, given the substantial decline during the mid-seventies. What it does reveal is the need to introduce historical analysis in the development of current responses to drug abuse to understand more clearly the interplay between social conditions, user characteristics, and various policy efforts as they bear on drug problems.[6]

Although the longitudinal pattern indicates that current drug problems are not new, what is new is crack as a predominant drug. The data suggest, however, that efforts focusing on cutting the supply of crack will be effective only if alternative drugs are not available. The heavy use of narcotics among Hispanics in the El Paso and San Antonio areas and cocaine among blacks in the Houston and Dallas areas indicates the problems involve not a single drug, but patterns of abuse that are specific to areas and groups. Patterns of abuse could be related to access and to the norms of the group in question.

Smart has posited that both availability and proneness, or the willingness to use, affect patterns of abuse.[17] Reducing the supply of a single type of drug may only lead to redirection of the existing demand. The emergence of mixtures of narcotics, cocaine, and other drugs as a cause of death suggests the need to control access to a range of drugs if a supply-oriented policy is going to work.

While occupational data showing differences among the various categories are a limited indicator that should be interpreted cautiously, they provide some indication that those in lower socioeconomic status occupations may be at greater risk of drug overdose. Household survey data and other research has been somewhat inconclusive concerning the relationship of socioeconomic conditions to drug abuse, although there is some indication that income level and employment may be related to abuse.[5,18,19] At a minimum, the data suggest that those in predominantly blue collar jobs are at higher risk for narcotic and cocaine abuse, suggesting these groups may need greater attention in worksite drug abuse prevention programs.

The evidence that higher mortality rates occur among blacks and Hispanics even when controlled for occupational category is difficult to interpret. As noted above, the findings suggest that factors in these ethnic communities, in addition to economic conditions, may contribute to the higher drug abuse prevalence indicated. Recall, however, that the occupational data examined are the subjects' usual occupation and do not represent absolute levels of income or levels of employment. Given the substantially higher unemployment rates of blacks and Hispanics in Texas, as well as lower median incomes, differences in economic well-being within the groups classified in an occupational category.

Regardless of what interpretation is given to the different mortality rates for the ethnic groups, these findings suggest that those who are likely to be employed in lower income jobs are at higher risk of drug mortality. This is not to suggest that drug abuse is unique to lower income groups, since there is ample evidence to the contrary, but to point out further that different patterns of drug abuse.

This is illustrated by the evidence that changes in mortality during a period of years are dominated by patterns among men indicating that they are most susceptible to factors influencing illicit drug abuse. There is, however, evidence from the same data set that women are at higher risk of abuse and misuse of some prescription drugs.[20,21] Thus, effective responses to drug problems will be particularly important for the development of prevention programs, since prevention of drug abuse among men and women may require different approaches. Comparative study of high-risk males and females together with those of low risk may be useful in identifying factors that are associated with the problem.

The evidence indicates that drug problems are currently increasing at an alarming rate in Texas, but it shows that drug problems of similar magnitudes nearly 15 years ago declined at a rapid rate. To address the current problems effectively will require a better understanding of the historical interplay of public policies and social patterns as they bear on the problems.

Drug problems involve a complex interaction between a variety of factors, evidenced by varying mortality patterns among subgroups of the population. Consequently, programs to prevent and ameliorate drug problems may need to be designed to address the unique character of specific target groups. Finally, effective coordination between Federal, State, and local agencies is needed in developing responses that appropriately address the differences between communities.

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# SUPPLEMENTAL INFORMATION

## INTRODUCTION

In an effort to add more recent information to that presented in the article, "Patterns of Rates of Mortality from Narcotics and Cocaine Overdose in Texas, 1976-87," the following update is provided. The update extends the time period of the study to 1989, the last year for which data were available.

## RESULTS

The mortality rates per 100,000 population from narcotics overdoses for 1976 through 1989 are presented in Figure 1. Although there was a sharp drop from 1986 to 1987, the pattern from 1987 to 1989 suggests that narcotics mortality rates are varying around a level substantially higher than the lowest rates in the early 1980's. Hispanics continue to have mortality rates from narcotics overdoses that are higher than either Blacks or Whites.

The mortality rates per 100,000 population from cocaine overdose are presented in Figure 2. The rates continued to increase from 1987 to 1988 for all three groups. While the rates for both Blacks and Whites declined from 1988 to 1989, the rates continued to increase for Hispanics. This suggests that cocaine mortality for Whites and Blacks may be leveling off, but is continuing to increase for Hispanics.

Rates by drug, gender, and ethnicity are presented in Table 1. This table further illustrates the mortality risk of Hispanics from narcotics overdoses. Men remain at higher risk than women within each of the ethnic groups, although Black women have mortality rates from cocaine overdose that are similar to those for White and Hispanic men.

Data on age, usual occupation, and location are not presented because the findings are similar to those reported in the original article. The average age remains in the mid-thirties. The usual occupation continues to be distributed among the categories, and the

**Figure 1**
**Narcotics Mortality Rates**

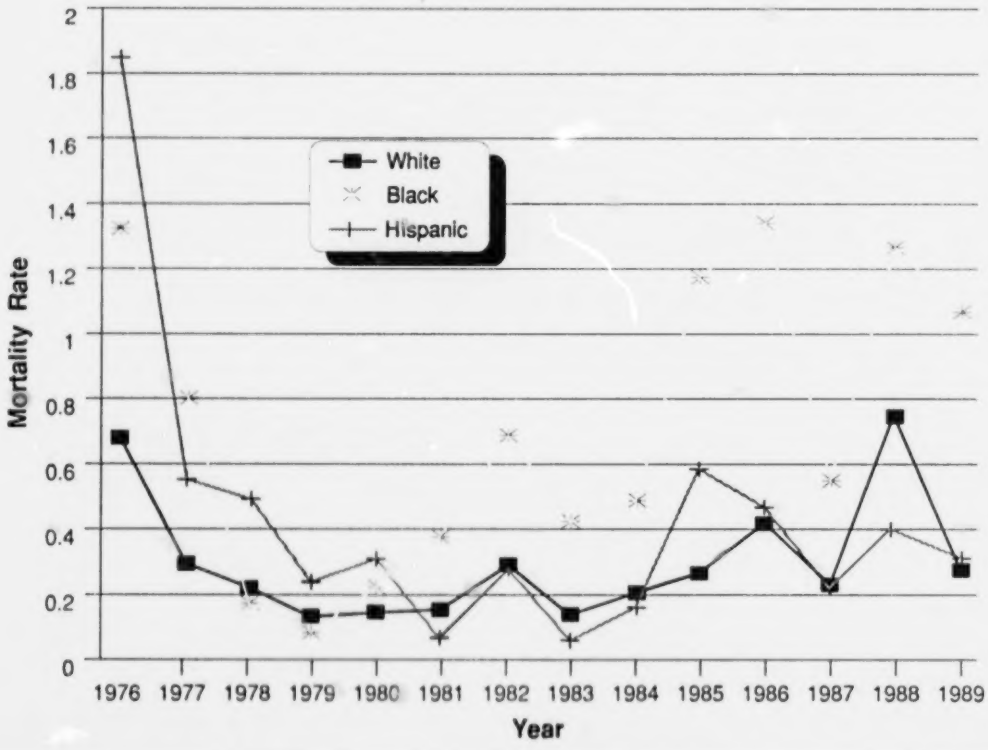
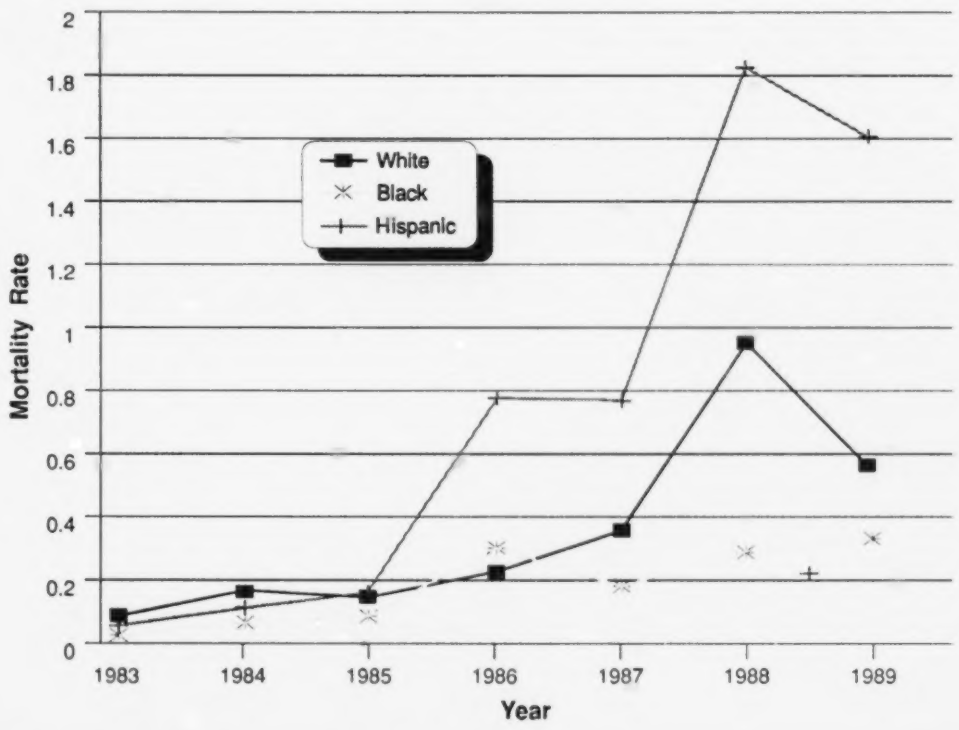


**Figure 2**
**Cocaine Mortality Rates**




largest proportions remain in the blue collar categories of crafts and laborers and operatives. The distributions by location also remained much the same.

## Discussion

The updated results are generally consistent with the original article, although there are some patterns that have changed and new patterns that have emerged. First, the 1986 to 1987 decline in narcotics mortality appears to have been temporary. More recent years suggest that narcotics mortality may have reached a plateau at a level that is higher than the low levels of the 1980's. Cocaine mortality rates may also have reached a plateau for Whites and Blacks, but are showing an increase for Hispanics. Thus, the declines in prevalence reflected in current surveys are not reflected in these mortality patterns. One possible explanation is that populations that are not easily included in survey data such as homeless or transient groups are included in the mortality data, and that drug abuse has not decreased for these groups. More specific examination of the prevalence of drug abuse among homeless and transient populations is needed to determine the extent of the problem.

Two especially troubling findings are the increases in cocaine overdose among Hispanic men and Black women. For Hispanic men, this suggests that cocaine abuse, which was relatively uncommon among this group, is increasing. This may be indicative of a change in the norms of the Hispanic drug culture. In addition, evidence from the Medical Examiners Office of Bexar County, Texas, reported at the 1991 meeting of the Drug Epidemiological Work Group of the Texas Commission on Alcohol and Drug Abuse, suggests that drug involved deaths such as homicide are much more frequently associated with cocaine than narcotics. Consequently, the increase in cocaine abuse may also portend an increase in drug-related violence.

The increase in cocaine overdose among Black women to levels similar to both White and Hispanic males indicates that the usual differences in drug abuse prevalence found between males and females may be narrowing. Consequently, some of the inhibitors that appeared to have reduced the risk of drug abuse among women may be breaking down. Further, increases in drug abuse among

**Table 1**
**Mortality Rates by Drug, Gender, and Ethnicity, 1988 and 1989**

**1988 Mortality Rates**

| Drug Category | White Male | | White Female | | Black Male | | Black Female | | Hispanic Male | | Hispanic Female | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Rate | No. | Rate | No. | Rate | No. | Rate | No. | Rate | No. | Rate |
| Narcotics | 79 | 1.40 | 6 | 0.10 | 5 | 0.53 | 3 | 0.29 | 45 | 2.25 | 5 | 0.26 |
| Narcotics combinations | 23 | 0.41 | 3 | 0.05 | 1 | 0.11 | 1 | 0.10 | 5 | 0.25 | 0 | 0.00 |
| Cocaine | 93 | 1.65 | 14 | 0.24 | 28 | 2.95 | 8 | 0.79 | 9 | 0.45 | 2 | 0.10 |
| Cocaine combinations | 32 | 0.57 | 2 | 0.03 | 8 | 0.95 | 3 | 0.29 | 11 | 0.55 | 2 | 0.10 |

**1989 Mortality Rates**

| Drug Category | White Male | | White Female | | Black Male | | Black Female | | Hispanic Male | | Hispanic Female | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | Rate | No. | Rate | No. | Rate | No. | Rate | No. | Rate | No. | Rate |
| Narcotics | 22 | 0.39 | 9 | 0.16 | 5 | 0.52 | 1 | 0.10 | 38 | 1.87 | 5 | 0.25 |
| Narcotics combinations | 6 | 0.11 | 1 | 0.02 | 1 | 0.10 | 0 | 0.00 | 4 | 0.20 | 1 | 0.05 |
| Cocaine | 37 | 0.65 | 4 | 0.07 | 22 | 2.30 | 10 | 0.97 | 21 | 1.03 | 0 | 0.00 |
| Cocaine combinations | 11 | 0.19 | 3 | 0.05 | 8 | 0.84 | 2 | 0.19 | 5 | 0.25 | 2 | 0.10 |

*Prepared by Kirk C. Harlow, Dr.P.H., University of Houston-Clear Lake. May 16, 1991.*

women also means an increased risk of drug-addicted babies and the associated consequences.

As suggested by the original article, overdose mortality is distributed among all the occupational groups, but is particularly high among the lower income, blue collar groups. Consequently, it appears that these groups are at higher risk for the abuse of cocaine and narcotics. It should be noted, however, that this does not mean that lower income groups are more at risk of drug abuse in general than other groups. Women, for example, have been found to be at risk of abuse of legally prescribed tranquilizers. As noted in the original article, factors such as access to drugs and cultural norms appear to play a role in the types of drugs abused and the patterns of abuse.

These more recent data suggest that as of the end of 1989, policy efforts had at best slowed the rate of growth of cocaine and narcotics overdose and the related abuse. The increase of cocaine overdose among Hispanics and Black women belies the failure of current policy to prevent increases in cocaine abuse among groups that had previously been at lower risk. In addition, the groups that emerge at highest risk are also those groups that have least access to prevention and treatment for substance abuse. Many of those overdosing fall into the general laborer occupational category and probably lack health insurance or are under insured, and consequently have access to the very limited number of free treatment programs. It is clear that comprehensive prevention and treatment strategies are needed that include not only supply-side enforcement efforts, but that also address access to treatment, are sensitive to cultural differences, and encompass the entire community rather than the more common narrowly focused prevention education.

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